Atlantic States Marine Fisheries Commission

Executive Committee

August 4, 2015
8:00 – 10:00 a.m.
Alexandria, Virginia

Draft Agenda

The times listed are approximate; the order in which these items will be taken is subject to change; other items may be added as necessary.

1. Welcome/Call to Order (*L. Daniel*) 8:00 a.m.

2. Board Consent 8:05 a.m.
   - Approval of Agenda
   - Approval of Meeting Summary from May 2015

3. Public Comment 8:10 a.m.

4. Executive Director Annual Review **CLOSED SESSION** 8:15 a.m.

5. Administrative Oversight Committee Report 8:45 a.m.
   - Review White Paper on Changes to Commission Guidance Documents

6. Future Annual Meetings Update (*L. Leach*) 9:35 a.m.
   - November 2-5, 2015 – St. Augustine, Florida
   - 2016 – Maine
   - 2017 – Virginia
   - 2018 – New York

7. Other Business/Adjourn 9:55 a.m.

Please Note: Breakfast will be served at 7:45 a.m.

The meeting will be held at The Westin Alexandria, 400 Courthouse Square, Alexandria, Virginia 703.253.8600

Vision: Sustainably Managing Atlantic Coastal Fisheries

MEETING SUMMARY OF THE

ATLANTIC STATES MARINE FISHERIES COMMISSION

EXECUTIVE COMMITTEE

The Westin Alexandria
Alexandria, Virginia
May 6, 2015

INDEX OF MOTIONS

ATTENDANCE

Committee Members

Terry Stockwell, ME (AA proxy)
Doug Grout, NH (AA)
Dennis Abbott, NH (LA Chair)
David Pierce, MA (AA)
Bob Ballou, RI (AA)
David Simpson, CT (AA)
Jim Gilmore, NY (AA)
Brandon Muffley, NJ (AA proxy)
Leroy Young, PA (AA proxy)
John Clark, DE (AA proxy)
Roy Miller, DE (GA Chair)
Tom O'Connell, MD (AA)
John Bull, VA (AA)
Louis Daniel, NC (AA)
Robert Boyles, SC (AA)
Spud Woodward, GA (AA)
Jim Estes, FL (AA proxy)

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

Other Commissioners

David Borden, RI (GA)
Eric Reid, RI (LA proxy)

Staff

Bob Beal
Laura Leach

Others

John Bullard
Wilson Laney
Arnold Leo
Charles Lynch
Steve Meyers
Mike Millard
Derek Orner

CALL TO ORDER

The Executive Committee of the Atlantic States Marine Fisheries Commission convened in the Bell Room of The Westin Alexandria in Alexandria, Virginia on May 6, 2015. It was called to order at 8:00 a.m. by Chairman Louis Daniel.

APPROVAL OF AGENDA

The agenda was approved with two additions;
1) AP Chair's role in board meetings and,
2) Conservation equivalency policy.

APPROVAL OF PROCEEDINGS

The summary minutes from the February 4, 2015 meeting were approved as presented.

PUBLIC COMMENT

There was no public comment.

CLOSED SESSION

The Executive Committee went into a closed session and discussed human resource issues. The Executive Committee discussed the results of the staff survey conducted in April, and was overall very pleased with the feedback. The Executive Director was encouraged to continue to respond to the survey findings, including reviewing salaries and make adjustments as appropriate.

REPORT OF THE ADMINNISTRATIVE OVERSIGHT COMMITTEE (AOC)

The AOC met via conference call to review the proposed FY16 budget. Mr. Abbott, on behalf of the AOC, moved approval of the budget as presented. It was approved without objection.

Mr. Grout reported that the AOC had approved a revision to the Annual Awards of Excellence categories. Instead of Scientific, Technical & Advisory, it will now be Scientific & Technical and then a new category was established: Outreach & Advocacy.

Mr. Grout also reported that the AOC decided not to apply the 5% increase to the state assessment this year.

APPEALS CRITERIA LANGUAGE

There was lengthy discussion about the Commission's appeals process, which was originally developed in 2004. It was most recently used by Delaware and Maryland on Striped Bass Amendment 4. John Clark drafted a paper summarizing his thoughts on the appeals process, noting that it asks more questions than provides answers. It was suggested that the way our process works almost negates the need for an appeals process, but Mr. Boyles noted that it is a "process", which provides an opportunity to ensure that our rules and procedures have been applied fairly. It is to our advantage to have an appeals process so that people are comfortable knowing that we are following our own rules.

One suggestion made was that the AOC should act as the Appeals Board. It was decided staff would review and update the appeals process for AOC review. Once drafted it should be reviewed by the Commission's attorney for review.

The following should be taken into consideration when drafting the appeals process document:

1. There should be an independent unbiased hearing.

2. Appeal should be based on:
   Was due process followed?
   Was the decision arbitrary or capricious?

3. Make sure a quorum is required in the rules.

COMMISSION GUIDANCE DOCUMENTS

It was noted that there are many areas of our guidance documents that can be cleared up and tightened up. The AOC will oversee the revision of our guidance documents. Commissioners are encouraged to bring their recommended changes to an AOC member.

FUTURE ANNUAL MEETINGS

The Commission will meet November 2-5, 2015 at the Renaissance World Golf Village Resort in St. Augustine, Florida, jointly with the Gulf States Marine Fisheries Commission. Our 75th annual meeting will be held in October 2016 in Maine; in 2017 we'll meet in Virginia; and in 2018 we'll meet in New York.

OTHER BUSINESS

Mr. Abbott noted that he felt the Chair of the AP at two board meetings overstepped their bounds; participating in discussions when they should not have been. The Board Chairs should be handling this, by not calling on the AP Chair during discussions. Three options were proposed on dealing with this issue:

1. Have the Advisory Panel, Technical Committee and Law Enforcement Committee Chairs sit at the head of the table only if they have a presentation; then they go back to the audience (Executive Director Beal suggested that the Technical Committee Chair not be included in this policy;)
2. Follow the policy of the NEFMC, which encourages the TC Chair to be part of the discussion;
3. Status Quo.

The AOC will review these options and come up with a recommendation for the August meeting.

Mr. Grout noted that the Striped Bass Board was allowing a tremendous amount of conservation equivalency, which was originally meant to be used in special circumstances originally. He believes we're letting it go too far, and recommends revisiting the Conservation Equivalency Policy.

ADJOURN

CHAIRMAN LOUIS DANIEL adjourned the Executive Committee meeting at 10:25 a.m.

Atlantic States Marine Fisheries Commission

Atlantic Herring Section

August 4, 2015
10:15 – 11:45 a.m.
Alexandria, Virginia

Draft Agenda

The times listed are approximate; the order in which these items will be taken is subject to change; other items may be added as necessary.

1. Welcome/Call to Order (*T. Stockwell)* 10:15 a.m.

2. Board Consent 10:15 a.m.
   - Approval of Agenda
   - Approval of Proceedings from May 2015

3. Public Comment 10:20 a.m.

4. Develop Guidance to the Plan Development Team for Draft Amendment 3 (*T. Stockwell*) 10:30 a.m.
   - Technical Committee Report

5. Update on New England Fishery Management Council Herring Committee Activities (*T. Kerns*) 11:30 a.m.

6. Other Business/Adjourn 11:45 a.m.

The meeting will be held at the Westin, 400 Courthouse Square, Alexandria, Virginia; 703.253.8600

MEETING OVERVIEW

Atlantic Herring Section Meeting
August 4, 2015
10:15 – 11:45 a.m.
Alexandria, Virginia

Chair: Terry Stockwell (ME) *Assumed Chairmanship 10/13*	Technical Committee Chair: Renee Zobel	Law Enforcement Committee Michael Eastman
Vice Chair: Ritchie White (NH)	Advisory Panel Chair: Jeff Kaelin	Previous Section Meeting: May 4, 2015
Voting Members: ME, NH, MA, RI, CT, NY, NJ (7 votes)		

2. Section Consent

- Approval of Agenda
- Approval of Proceedings from May 2015

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 in 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 Section Chair may determine that additional public comment will not provide additional information. In this circumstance the Chair will not allow additional public comment on an issue. For agenda items that the public has not had a chance to provide input, the Section Chair may allow limited opportunity for comment. The Section Chair has the discretion to limit the number of speakers and/or the length of each comment.

4. Develop Guidance to the Plan Development Team for Draft Amendment 3 (10:30 – 11:30 a.m.)

Background

- The Section tasked the Plan Development Team with developing a Draft Amendment to the Atlantic Herring Fishery Management Plan containing the following issues:
- *Spawning areas efficacy*: to evaluate the effectiveness of spawning area boundaries and closures.
- *Fixed gear set-aside*: to reconsider the rollover of unused quota into Area 1A's sub-quota.
- *Gear declaration*: to consider requiring vessels to declare intended fishing gear prior to a trip.
- *Empty fish hold provision*: to consider requiring vessels to empty holds of fish prior to leaving for a trip as a measure to discourage dumping of unsold herring at sea.
- After review of the PID, the Section tasked the Plan Development Team to develop the draft amendment with all the above except for the gear declarations. The Section also asked for additional analysis of management options for spawning area efficacy, the PDT conducted an analysis of the spawning area closure program with recent

science and data on herring spawning and proposes a new GSI-based monitoring program.
- The Section approved the Draft Amendment for public comment at the May 2015 meeting but then withdrew the document from public comment in June when Section members expressed concern about the highly technical nature of the proposed measures and the potential impacts of these measures to the fishing industry.

Presentation
- Terry Stockwell will present guidance on needed changes to the proposed spawning protection measures that clearly define the goal of spawning protections and detail the benefits and impacts of spawning closures to the resource.

5. Update on New England Fishery Management Council Herring Committee (11:30 – 11:45 a.m.)

Background
- The NEFMC Herring Committee met on July 22 to make recommendations to the full Council on the 2016-2018 Atlantic herring fishery specifications and the proposed recommendations for seasonal sub-ACLs in management areas.

Presentation
- Staff will present a summary of recommendations from the Herring Committee.

6. Other Business/Adjourn

DRAFT PROCEEDINGS OF THE

ATLANTIC STATES MARINE FISHERIES COMMISSION

ATLANTIC HERRING SECTION

The Westin Alexandria
Alexandria, Virginia
May 4, 2015

These minutes are draft and subject to approval by the Atlantic Herring Section
The Section will review the minutes during its next meeting

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ATTENDANCE

Board Members

Terry Stockwell, ME, proxy for P. Keliher (AA)
Steve Train, ME (GA)
Cheri Patterson, NH, proxy for D. Grout (AA)
G. Ritchie White, NH (GA)
Dennis Abbott, NH, proxy for Sen. Watters (LA)
Rep. Sarah Peake, MA (LA)
David Pierce, MA (AA)
Bill Adler, MA (GA)
Eric Reid, RI, proxy for Sen. Sosnowski (LA)
David Borden, RI (GA)
Rep. Craig Miner, CT (LA)
Paul Risi, NY, proxy for Sen. Boyle (LA)
Emerson Hasbrouck, NY (GA)
Jim Gilmore, NY (AA)
Adam Nowalsky, NJ, proxy for Asm. Sgt. R. Andrzejczak (LA)
Brandon Muffley, NJ, proxy for D. Chanda (AA)
Tom Fote, NJ (GA)
Steve Meyers, NOAA

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

Ex-Officio Members

Jeff Kaelin, Advisory Panel Chair
Michael Eastman, Law Enforcement Representative

Staff

Robert Beal
Toni Kerns
Jeff Kipp
Melissa Yuen

Guests

Micah Dean, MA DMF
Bob Glenn, MA DMF
Jeff Deem, MAFMC
Alli Murphy, NOAA
Mila Ruccio, NOAA
Stephanie Hunt, NOAA
Jon Cornish, ME DMR
Meghan Lapp, Seafreeze
Raymond Kane, CHOIR
Eric Buck, Silver Spring, MD
Patrick Paquette, MSBA
Shaun Gehan, SNPC
Mary Beth Tooley, Lincolnville, ME

The Atlantic Herring Section of the Atlantic States Marine Fisheries Commission convened in the Edison Ballroom of the Westin Hotel, Alexandria, Virginia, May 4, 2015, and was called to order at 12:45 o'clock p.m. by Chairman Terry Stockwell.

CHAIRMAN TERRY STOCKWELL: Good afternoon, everyone. I'd like to start off by welcoming at one least one new member, Eric Reid. Cherie is here for Doug and Senator Langley is replacing Representative Kumiega. He will be here at some point this afternoon. Jim, I don't know the gentleman sitting to the right of you.

MR. JAMES J. GILMORE, JR.: It is Paul Ricci. He is sitting in for Senator Boyle.

CALL TO ORDER

CHAIRMAN STOCKWELL: I call the Herring Section to order. Before we approve the agenda, are there any other issues for other business? I have one which is to have a brief discussion from the states of Massachusetts, New Hampshire and Maine to select a new date for our call-in to monitor the rate of catch for the days out under other business. Is there anything else?

APPROVAL OF AGENDA

Seeing none, are there any other changes or additions to the agenda? Seeing none; let's consider the agenda approved.

APPROVAL OF PROCEEDINGS

CHAIRMAN STOCKWELL: Are there any changes or edits to the proceedings from October 2014? Seeing none; consider the proceedings approved.

PUBLIC COMMENT

CHAIRMAN STOCKWELL: Are there any public comments for items that are not on the agenda? Okay, we're to consider Draft Amendment 3 for public comment. I'll turn it over to Melissa who is going to turn it over to Micah.

CONSIDER DRAFT AMENDMENT 3 FOR PUBLIC COMMENT

TECHNICAL REPORT ON GSI-BASED SPAWNING MONITORING SYSTEM

MR. MICAH DEAN: This is just a reminder of the annual maturity cycle of herring and the corresponding rise and fall in GSI. The point of this is to try to close the fishery when the GSI is just prior to its peak, just before spawning occurs, which is at our maturity stage six there. Most of the samples that we collect for monitoring this fishery come from stages four and five, towards the end of their late maturation.

The way the system currently works is that once we get two consecutive samples above our threshold, the fishery closes for four weeks. Now, if we don't have enough samples to inform this, a default closure date applies. When this system was developed in the late nineties, we didn't have the depth of information that we have now to evaluate the parameters of this closure system, the trigger levels, the duration or the default closure dates.

The task was assigned to me to look over the past 20 years of new GSI samples that we have collected to try to evaluate how effective and appropriate this system is. This is a look at those data combined from Massachusetts and Maine GSI sampling. Part of this relies on the assumption that GSI tracks this development and ultimately will lead up to spawning; and we definitely see that in our GSI sampling data; that as a pro goes through the maturation stages, you get this increase in GSI. This is convenient here that the increase in GSI leading up spawning is linear or approximately linear in these last few stages between stage four and five.

We definitely see that here both in Gulf of

Maine and other parts of the world. It has been long recognized that there is a relationship between the size of the herring that you sample and the GSI that you observe and those larger herring typically achieving larger GSIs. Because of this, there has been two size bins for these triggers of what GSI constitutes the point at which you want to close the fishery.

This relies on the assumption that these different size classes achieve a different maximum GSI for spawning. When I reviewed these data, that does not appear to be the case; that all herring, regardless of size, achieve a similar maximum GSI. This has been seen elsewhere in other herring stocks and it has been explained because of size-dependent arrival on the spawning ground, with larger herring spawning first and smaller herring spawning later.

You can see those red lines there are the existing threshold levels that we use to close this fishery. You can see for the smaller fish, less than 28 centimeters, that threshold is quite a bit lower than the GSI that they attain. Trying to confirm this, I went to see if the average size of herring over the course of the season is decreasing; and in fact it is in a significant way.

You have the larger fish first and sequentially smaller fish as you progress through the season. To try to explore all the other factors that might be affecting herring GSI and that we might need to incorporate or account for in our closure system, I explored some generalized linear models. I apologize for the technical output here; but if you just pay attention to the red notes, I think the point will get across.

I did do another model where we looked at the gear type, whether purse seines or bottom trawls. It really did not affect anything so I pooled those together. For now I'm omitting midwater trawls because we don't really have midwater trawls GSI samples at the same time as any of the other gear types; so I don't really have this simultaneous collection of data to be able to compare the effect of that factor.

What we see is this – J is Julian Day, the day of the year – there is this steady increase of GSI of 0.2 per day after controlling for all the other factors. From year to year you see that the actual day of spawning can shift by six GSI points, which using that rate is about 30 days. This is the reason why we need to have this GSI monitoring system; because if you rely on just a fixed date each year, you may be off by six weeks, which can be a problem with a four-week closure.

Here is the length effect and there is a pretty strong length effect where one centimeter increase in length has a corresponding increase in GSI of 1.8 points, which is about ten days of timing of spawning difference. Using this we can now correct for this difference in length of herring between the samples and standardize everything to a fixed length. I'll return to that.

Finally, the spawning area where the fish are collected; the eastern Maine area appears to be strongly significantly different earlier spawning than the other two areas; but there is no evidence of a significant different between the western Maine and Massachusetts/New Hampshire areas, which are better sampled anyway. Then to choose a sensible trigger level of when to close the fishery, I looked to the stage five distribution of GSI samples.

And if you think about that first plot, I show that stage five is the last phase before they reach actual spawning. The distribution of GSI values that you get during that stage are really the final accumulation of GSI up to spawning; but something towards the right or tail end of this distribution would make sense to be something to indicate when spawning would occur.

So I arbitrarily picked three levels from this distribution; the 90th percentile, 80th and 70th percentile. These colors will remain consistent as I go through the rest of the slides. You can

think of further to the right, the blue level represents a trigger associated closer to the actual spawning date; whereas, points to the left, the red, the 70th percentile represents a closure that would be protecting more pre-spawning fish.

This may be a little small to see for some of you in the back of the back of the room, so I took these points and I looked at our previous ten or twelve years of samples to see when these three potential triggers would have been reached. This will give you an idea of when you would have achieved that threshold in past years; and that distribution can help you inform what an appropriate default date would be.

If you're going for something that is closer to closing right prior to spawning, over the past twelve years that was the blue box there, October 17th. If you want to provide more protection for pre-spawning fish and closing earlier, that is closer to September 25th. You can see that interannual difference there where some years it is quite a bit later than other years.

You can see the steady linear increase where there is pretty little deviation from those points in the line after you correct for the length discrepancy between samples. There has also been quite a bit of studies done back in the seventies on herring spawning in the Gulf of Maine; so I wanted to get a sense for what other information was out there for when herring spawning occur.

This is what I found that was relevant to our spawning areas. In the Massachusetts/New Hampshire area, they did submersible missions. They did scuba diving out on Jeffrey's Ledge, grabbed samples, and they were identifying when they found demersal herring beds on the bottom. There is a range there between September 20th and October 30th.

That is right in the ballpark of what our GSI sampling has shown may be somewhat earlier. We don't have the depth of samples in the eastern Maine area; and I wouldn't rely on our GSI samples to inform what an appropriate default date would be for that area. I think it is probably more reasonable to rely on the studies that were done in the eighties there when they looked for when they found the demersal egg beds, they're on lobster traps in eastern Maine.

August 28th was the average first spawning in those years. Another thing is that the range and when they found these egg beds was around 40 days for all of these areas except for this one on Jeffery's Ledge, which was a relatively smaller sample in a smaller location. The current closure is four weeks; 40 days is closer to six weeks; 42 days; so it appears that the herring spawning season length is somewhat larger than the current system.

If we were to use this evaluation of our GSI data to steer the closure system in a new direction, these are the recommendations that would come out of it. Since there is no significant difference in spawning times between western Maine and Massachusetts/New Hampshire, it seems appropriate to combine those two.

This can be beneficial in a few ways. One, instead of dividing our samples now between smaller bins when we deal with sampling issues and whether we have enough to be able to inform the closure, we now have a larger pot of samples to go from. We should have a target of 25 fish per sample. Right now we don't have something that is listed in the plan of what to do, and I think putting out a paper makes sense. It is a good practice.

Using the GLM model, which included lengths, if we standardize everything to a single length that takes account for the differences that have been between samples from areas, there has been a perceived difference between samples collected by Maine DMR and Massachusetts DMF; and I think that is a largely explained by the difference in length that those two fisheries encounter.

And so if we standardize to a larger size herring – here I'm standardizing the 30 centimeters – the larger herring spawn first; you're starting the closure when the herring first start to spawn. That is the idea there. There are options in selecting a new trigger value with those points in the distribution of whether you wanted something closer to when spawning is actually occurring or whether you wanted a point closer to earlier in the season to protect more pre-spawning fish.

The recommendation is that once you have enough samples to detect a sufficient increase in GSI; that you use that rate to forecast a closure date when you cross that threshold; and have some amount of days that you would have to be this number of days away to predict when that closure date would occur.

Using the previous sampling data, we would alter the default dates to this schedule here, which is dependent on which GSI trigger you would go with. A closure period of six weeks is likely more aligned with the biology of herring than the current four-week closure. If we were to pursue something like this, the benefits would include that we would now have some advanced notices when the spawning closure would likely occur.

Now that we are predicting a rate based on samples collected from the beginning of the season, we follow that through and update it as we collect more samples, so we have some indication of whether this is to be an earlier year or a later year. This also reduces the pressure to obtain samples just at the right time.

The current system is you have to get two consecutive samples within a week above that threshold so it is just prior to spawning; and sometimes it can be difficult to get these samples. We may not get them in the same week or we may not have sufficient sample sizes. This system relies on all the information contained in all the samples you collect throughout the season.

Since you're including length and the other variables that I included there were more aligning it with the reproductive ecology of herring, hopefully it is more effective for its stated goal of protecting spawning herring. Lastly, it reconciles this perceived discrepancy between the two states that are collecting these data.

There have been discussions before of whether there are different spawning times from the areas where the Maine fishery occurs and the Massachusetts fishery occurs; but when you account for the different in lengths between those samples, you don't have a difference between them. If we have time, I just have some examples of how this proposed system would unfold using previous years' data.

I used three different case; one with good, not so good and worse data. In 2011 we had consistent regular sampling. The first five samples were not sufficient to be able to detect an increase in GSI. It wasn't until that sixth sample that we were able to detect a slope to that increase in GSI to forecast a date that it would pass that threshold.

I just used arbitrarily five days as the buffer to when you're going to pick that date. I'm just using the lower threshold pre-spawning closure; you would on September 1st have forecasted the closure on September 5th. If you go with the 80th percentile on that distribution for the trigger levels, on September 11th, after our eighth sample we would have – after September 5th we would have predicted a September 11th closure.

If you go with one that is protecting fish right up to the point of the spawning, you wouldn't have announced the closure until the 22nd for one starting on the 27th. Here in another year we've had difficulty acquiring samples in stretches of weeks; and so we would have first forecasted a

closure date of the 16th. We have done on September 7th.

You can see an addition of another sample causes that update to shift now by several weeks; and this is because we don't have consistent sampling. This underlines the need to have regular sampling if appropriate. Then, finally, where we have poor sampling, we were unable to collect many samples, we wouldn't be able to detect that increase in GSI and the default date would apply in this case with any of the trigger values.

I apologize for the amount of technical details that were in there, but I just wanted to relay the full potential changes that would happen to the closure system and where they came from and the justification behind them. I'm happy to take any questions if there are any.

CHAIRMAN STOCKWELL: Thank you, Micah; I suspect there might be. Questions for Micah?

MR. G. RITCHIE WHITE: I think in the beginning of your presentation you said that there was not any bias as to method of harvest, the difference between bottom trawl and purse seine; did I hear that correctly or is that not correct?

MR. DEAN: There was no detectable difference in GSI between bottom trawl and purse seine; that is correct.

DR. DAVID PIERCE: Micah, in your presentation you said I believe that there is a ten-day difference between the onset of spawning for 28-centimeter fish versus the 27-centimeter fish. Can you elaborate on that; what would account for something so different in terms of timing with only one centimeter.

MR. DEAN: Well, a one-centimeter bin is pretty big for herring where most of the population is between 24 and 28 centimeters; but that is what is showing, the strong significance of the relationship between length and GSI, which we take to mean as being the timing of spawning. That is accounting for all other factors of length on GSI; so an increase in one centimeter in length is essentially saying about a ten-day later spawn time. I used 27 to 28 as an example.

MR. JEFF KAELIN: It is an interesting analysis. I think the projection idea makes a lot of sense if you're not going to increase sampling, but my question is did you analyze at all what the benefits would be to the spawning stock biomass going from four to six weeks? I mean, clearly, there would be a cost to the fishery, but can you project a biological benefit to the already large spawning stock biomass? I mean in terms of cost benefit; did you look at that at all as the PDT?

MR. DEAN: No; we didn't draw that connection here. We were just basically taking it that the – the assumption is that the goal of the system is to try to adequately protect spawning fish; and we were evaluating the performance and the adequacy of the current system in protecting spawning fish. We didn't go by extension to determine the impact on the total stock; the benefit of increasing protection or aligning it better with the life history.

DR. PIERCE: Micah, can you put this in a nutshell. You've just asked the question that we've asked you; the degree to which spawning herring are being protected with the current approach that we use; so to what degree?

MR. DEAN: What do I see the current system is lacking compared to the proposal?

DR. PIERCE: Right; to what degree are we not protecting spawning herring as a consequence of the analysis you did, which was in concern with someone else or did you do this yourself; I can't recall?

MR. DEAN: No; this was with Matt Cieri. Maine and Massachusetts have collected a large number of samples, just like 8,000 GSI observations over the past 12 years. We pooled

our raw data to do this analysis, which is something new for us. We've always compared the results of the sampling and used those to inform this current system.

In the end the analysis of the combined dataset I think identifies that we've likely been closing several weeks before spawning in the average year; that the current threshold of 15 for younger fish and 20 for larger fish often is closing quite a bit earlier than spawning actually is occurring if we think that they're all attaining a maximum GSI of somewhere around 28 to 30. With the four-week closure, we may be closing long before they're actually achieving spawning; and then the overlap between the spawning period and the true spawning activity may be limited.

DR. PIERCE: If I may, Mr. Chairman, so if we've been closing several weeks before actual spawning takes place, your analysis indicates that if we use the approach that has been assembled and put into the documents, we potentially will improve.

We will dramatically increase accuracy regarding the timing of when they actually do spawn; so we wouldn't be closing several weeks before spawning; we would be close to when they are actually spawning; and to add to that, that would mean that we would not run the risk of having to extend the spawning closure beyond the expected opening –

MR. DEAN: Right.

DR. PIERCE: – because they will have concluded spawning. Okay, what you said, the analysis that you've done strongly suggests that this would be an approach we should seriously consider. Okay, thank you.

CHAIRMAN STOCKWELL: Are there any further questions from the section? Questions from the audience? Mary Beth.

MS. MARY BETH TOOLEY: Mr. Chairman, I had a couple of questions. One was perhaps a follow-up to Dr. Pierce's comment. I'm wondering how many times we've had to extend the spawning closure two weeks after it has reopened. Particularly in the Massachusetts/New Hampshire there is a lot of fishing activity that takes place after that opening; and I don't recall it happening very often, if at all, but I'm sure I'm missing something.

MR. DEAN: It has happened at least once in my tenure. I've only been covering herring for the past five years or so; but it has happened at least once during that time. I don't have like the full library of history there. The rule that is currently in place to cause a re-closure, an extension, is based on if we see greater than 25 percent of fish in spawning condition in a sample afterwards.

The sampling intensity and effort that occurs after the closure is far less than what occurs in the lead up to try to inform the initiation of that closure. The GSI sampling is the primary amount of work; and then there is more opportunistic and scant samples coming in afterwards. The fishery doesn't last nearly as long on the tail end; and so I don't think we have as good information on that end to be able to inform that, unfortunately.

MS. TOOLEY: And then just a question on Table 3. I noticed in the studies that you cite, three out of the four are references to eggs; and the program has never, in my history with it, ever considered eggs. Certainly, egg mats on the bottom are not disturbed by the fishery at all; and it certainly does seem to have quite a long season length. Is there some reason that you incorporated egg beds and larvae into your calculations?

MR. DEAN: They weren't incorporated into the calculations. It was just a check to see what other information was out there that could inform the timing of spawning in the Gulf of

Maine. Those were the other studies that were done that were relevant; so when egg beds that were found at those specific locations, those were the dates on average of the years that they visited them.

MS. TOOLEY: And just one last question. What do you think is the biggest impact to increase from the four to six weeks? First I thought it might be the inclusion of small fish with large fish, and I heard you reference larger fishing coming in earlier and the smaller later; and I'm not sure if we've looked at it that way in the past. Is that what is the main driver of the extension to six weeks?

MR. DEAN: Yes; so six weeks appears to be the range of time where there is evidence of spawning activity from the literature; and elsewhere in the world six weeks is toward the low end. It is typically more, six to eight weeks, elsewhere in the world, but locally six weeks is the signal that comes through.

By standardizing the sampling to large fish, which we believe spawn first, the idea is to start the closure when the first ones are spawning, the large fish, and then follow that through to when the smaller ones spawn at the tail end. The initiation is at the larger fish and then you follow through to all size classes.

CHAIRMAN STOCKWELL: Are there any further questions for Micah? Seeing none; thank you very much.

REVIEW OF THE OPTIONS

CHAIRMAN STOCKWELL: We're going to move on to the review of the options from Melissa.

MS. MELISSA YUEN: Now we will go over the options that are in Draft Amendment 3. The three issues, as a brief review, are spawning area efficacy, fixed-gear set-aside provision and the empty fish hold provision. This is the timeline for development of Draft Amendment 3. Today the section will consider approval of this amendment for public comment.

If approved, the public comment period will occur in May to June. Then the board will review comments and consider the draft amendment for final approval in August. These are the chapters in Draft Amendment 3. At the last section meeting I gave an overview of each chapter and a review of the issues, statement of problems, analysis of biological and socio-economic impacts; so today I will just focus on the management options.

The management options for the three issues can be found in Chapter 4 of the amendment. For Issue 1, there are four sub-issues with proposed management options based on the technical report findings that Micah just gave. These are the closure monitoring system, spawning area boundaries, default closure dates and the closure period.

Issue 1.1; the closure monitoring system. Option A is status quo to maintain the current spawning closure protocol for GSI-based triggers and the fixed default closure dates. Closures in a given area will begin based on the spawning condition of Atlantic herring as determined from commercial catch samples.

Commercial catch sampling shall begin at least August 1 for eastern and western Maine areas and by at least September 1 for the Massachusetts/New Hampshire area. If sufficient samples are not available, the closures will begin on the default dates. Continuing on with Option A, closures in a given area will begin seven days after determination that female herring in the gonadal stages of three to five from that specific area have reached the following spawning conditions.

Again, these were broken into two size classes; female herring greater than 28 centimeters in length will have reached a GSI index of 20 percent; and female herring greater than 24 centimeters and less than 28 centimeters in

length have reached a GSI of 15 percent. Here is the formula that is used to calculate the GSI.

For Option B, which the GSI-based spawning closure forecast system that was just presented; the closure date for the spawning areas will be projected based on a minimum of three samples collected from the fishery, each containing at least 25 female herring in the gonadal stages of three to five, with a target of 50 samples.

Acknowledging that the larger herring spawn first, female GSI values will be standardized to that of a 30 centimeter fish. This is the new formula that would be used in this forecast system. Continuing with Option B, once a significant positive linear relationship is detected between GSI 30 and the day of the year, the slope of this line will be used to forecast a closure date.

The forecasted closure date will be the day when GSI 30 is projected to exceed the trigger value; and there will be further sub-options in the next slide. As additional samples are collected, forecasts will be updated; and once the forecasted date is within five days, the spawning closure will be set or announced. If no significant increase in GSI 30 is detected prior to the default closure date, those default closure dates would apply.

For the trigger values, there are three sub-options. Spawning occurs at the completion of maturity of stage five. Therefore, a point at the high end of the distribution of observed GSI values for stage five fish should be used as a trigger. I have indicated with an arrow where the trigger values are. A higher value closes the fishery just prior to spawning; whereas, the lower value provides additional protection for more pre-spawning fish.

Issue 1.2; spawning area boundaries. Option A is status quo is to maintain the current spawning area boundaries for the three areas. Option B would be to combine western Maine and Massachusetts/New Hampshire areas; so there would be effectively two spawning areas.

Issue 1.3; default closure dates. For Option A, status quo, is to maintain the current default dates as they are set. Options B-1, B-2 and B-3 would be based on the trigger values. As you can see, as the trigger values increase, the default dates start later in the year.

Issue 1.4; spawning closure period. Option A, status quo, is to maintain the default closure of four weeks. Catch sampling of the fishery will resume at the end of the initial four-week period; and if catch sampling indicates significant numbers of spawning herring are still being harvested, then the closure will resume for an additional two weeks.

A significant number of herring is defined as 25 percent or more by number in the catch sample that have yet to spawn. Option B would be to extend the closure period for the Massachusetts/New Hampshire area; or if the western Maine area is combined with Massachusetts/New Hampshire, then the area closure will last for six weeks.

Moving on to the second issue, which is the fixed-gear set-aside. Option A is status quo; so currently the fixed-gear set-aside is available to fixed gear fishermen in Area 1A until November 1. If the set-aside has not been utilized by the fisheries at that time, it is then be made available to the remainder of the herring fleet until the directed fishery in 1A closes. The fixed-gear fishermen can continue fishing and landings will count towards the Area 1A sub-quota.

Option B would be to remove the set-aside rollover provisions. The fixed-gear set-aside will be available to the fishery west of Cutler through December 31st. When 92 percent of the Area 1A TAC has been reached, then all the directed herring fishery in Area 1A will close. Unused portions of the fixed-gear set-aside will not be rolled from one year to the next.

Issue 3; empty fish hold provision. Option A is status quo; there is no requirement for the empty fish hold prior to a fishing trip departure. Option B would establish the empty fish hold provision. This option will require that fish holds in Category A and B Atlantic Herring Vessels are empty of fish prior to leaving the dock on any trip and declared into the Atlantic Herring Fishery.

A waiver may be issued by an appropriate law enforcement officer. The intent is for waivers to be issued for refrigeration failure and non-marketable fish that have been reported by the vessel. Only vessels departing on a fishing trip are required to have holds empty of fish. As such, waivers would not be required for vessels that are just transporting fish from dock to dock. Are there any questions for the management options in Draft Amendment 3?

CHAIRMAN STOCKWELL: Clarifying questions only. Dave Borden.

MR. DAVID V.D. BORDEN: Mr. Chairman, I'm just kind of curious. Did the Enforcement Committee weigh in on the feasibility of inspecting holds and how much of a burden that will place on enforcement staff?

CHAIRMAN STOCKWELL: There will be an Enforcement Committee Report shortly.

MR. BORDEN: Okay, so they will deal with that.

MR. KAELIN: Mr. Chairman, not really a question, but I just wanted to pointed out after looking at the document the other day, Melissa, that the herring EFH maps were updated by a vote by the New England Council last week; so at some point if this does go to public hearing, the maps might want to reflect the new designations. They're not actually approved yet, but intended to be changed.

MR. WILLIAM A. ADLER: That was one of my questions was where do we sit between here and the council's decision? The second thing was I assume the empty-the-fish-hold thing is for all fishing areas and not just 1A; is that correct?

MS. YUEN: Yes; that's correct.

DR. PIERCE: Melissa or Micah, for that matter, I'm trying to wrap my mind around the options for the spawning closure period in the context of whether or not so we select the new approach for monitoring the GSI. I note on Page 39 of the document, under the spawning closure period, and this paragraph that is under Issue 1.4; there is an important statement.

It is the last sentence in that paragraph that reads, "Therefore, it appears the current four-week closure period is inadequate and increasing to a six-week closure will provide a better match for the available information on the duration in the Gulf of Maine herring spawning." Then we have status quo and then we extend the closure period to six weeks.

My question is if we go with the new approach for monitoring the GSI, and right now we're closing two weeks earlier than we should; would status quo; that is a four-week season be the logical outcome? Do you follow me? Why would we need six weeks if we changed the timing of the spawning closure so we're on target? I'm trying to make sure I'm understanding this correctly; because if we go with the new approach, it would seem to me that Option A would be the logical status quo to adopt. That is my question; how do we reconcile those two?

MR. DEAN: We don't have GSI samples to really tell us the duration of the spawning. We only have information really to inform when spawning starts; so we don't have any of our own data to say how long spawning is likely to occur, unfortunately. We've relied on other sources of information, from the literature, from primarily when egg beds have been found and where it has been documented elsewhere in the world. That is where the six weeks come

from.

I think we have been starting two weeks early under the previous system on average and that we also haven't provided the length of coverage as before. It is also we've relied on default dates very heavily in previous years primarily because of the difficulty to obtain samples that meet the parameters of the closure system as they're currently laid out.

MS. YUEN: And also that's why we have these under separate issues; so, for instance, the new method doesn't get approved, then there is still the option to extend the default closure to six weeks.

DR. PIERCE: If I may, Mr. Chairman, just to clarify; if we don't go with the new sampling approach, we would likely close two weeks early. If we decide to go with Option B under Issue 1.4, extend the closure period to six weeks – okay, it potentially would be longer than six weeks. I'm not stating that correctly. I have to think more about that.

CHAIRMAN STOCKWELL: And actually I've got one clarifying question. If you say there is no samples, we're essentially closing two weeks early – I mean, the existing protocol is we leave the fishery open until we do have sufficient samples; so my sense would be that we were starting with a spawning closure when the ripe fish were ready for closing. At least strictly from the state of Maine's perspective, we are sampling as soon as the season opens back up. Further clarifying questions? Steve.

MR. STEPHEN R. TRAIN: I think I'm following up on Dr. Pierce here. If we've been closing two weeks early, then why don't we just close two weeks later and get the full four weeks? Why do we need to change everything we're doing? Wouldn't that essentially do the same thing?

MR. DEAN: I'm seeing that there is lots of evidence that the timing of spawning changes is pretty variable from one year to the next; and the current system doesn't do a good job of detecting that and aligning the interannual difference in spawning with the closure system.

The new system is designed to be able to pick up on that, to identify if it is going to be an early year or late year and close when the spawning is actually occurring and rely less heavily on the default date because of the inability to collect samples that meet the current system.

CHAIRMAN STOCKWELL: Are there any further questions? Jeff.

MR. KAELIN: A couple of questions to Micah. I know in the past the AP has recommended – and you'll hear it again – in January that the technical committee look at the potential to go back to the tolerance system, which would improve the sampling ability as it used to at least in terms of targeting when spawning is actually occurring. Did the technical committee evaluate that at all this year or was it just left on the shelf? I have got one other question after that.

MS. YUEN: The technical committee talked about it, but it wasn't actually tasked by the section so we didn't look at it in depth.

MR. KAELIN: That is a good answer. My other one is for this new sampling, is there a commitment between the three states to increase sampling to support the new tristate spawning approach that is discussed in there?

MR. DEAN: Yes; in our discussions it seems to be that is the case; and by combining those two areas, we're already increasing the number of samples available; and by splitting them between size bins, we're increasing the number of samples. All together now we have a much larger pool. Before we were dividing between areas and dividing between size classes; and we'd end up with two herring in one bin, and what do you do with that information? We couldn't use; the default date applies. Here we're using it all together to try to inform an

appropriate closure.

CHAIRMAN STOCKWELL: Any clarifying questions from the audience? Mary Beth.

MS. TOOLEY: I'm kind of back on the same theme again here because I think I just don't understand it. When people were asking questions relative to the length of the closure, he brought up the egg beds again. How do the egg beds have an impact on the proposed length of the closure?

MR. DEAN: That is the only information we have available to identify what the length of the spawning season is around. In the Gulf of Maine and western Maine and Massachusetts/New Hampshire area is the duration of when herring egg beds have been seen in specific years; and those were the average time period that they were observed in the years of those studies.

Unfortunately, we don't have a good way to document the end of a spawning season from our fishery-dependent sampling; because the GSI, it increases up to spawning. Herring are determinant spawners and they lose all of their eggs in one show, so you just see this plummet of GSI. I think if we were able to collect GSI samples throughout the spawning closure and beyond, we might be able to have a better handle on that in the future and could improve that closure length information.

MS. TOOLEY: So did you consider the fact that the majority of the fish that are caught in the Gulf of Maine are by gear types that don't interact with the egg beds at all and that we hadn't considered egg beds in the past?

MR. DEAN: The closure system I don't think is designed to protect egg beds specifically. It is trying to protect the spawning activity. We're just using the egg bed information to identify the closure length.

MS. TOOLEY: I'm still quite confused. I recall when the original spawning measures went into place in 1983; and I've seen a lot of change over the years; but we've never considered egg beds or impact to egg beds. Most of those impacts are by other gear types and not the herring fishery gears that are used. The length of spawning, when you include the egg beds, is very different. I could say inappropriate, but I'm not supposed to be commenting.

ADVISORY PANEL REPORT

CHAIRMAN STOCKWELL: Okay, seeing no further questions, we're going to move on to the AP Report. Jeff.

MR. KAELIN: I'm Jeff Kaelin, the AP Chair. I work with Lund's Fisheries in Cape May, New Jersey; and I am a Mid-Atlantic Fishery Management Council member. We had a conference call on January 6th on this amendment. Obviously, it was before Micah's analysis. I think we had a quorum. I was on the call, Patrick Paquette, Phil Rhule, Mary Beth Tooley, Stephen Weiner, Madelyn Hall Arbor, Melissa, and Jennie Bichrest.

We obviously focused on this amendment. The PDT was analyzing the various options. The report that you have goes through the layout of the options as Melissa just provided us with additional detail. When we get into the first issues, the spawning area closure in Massachusetts/New Hampshire, AP members continued to unanimously support the status quo option, the four-week option, with continued sampling by the commercial fishery and closure when triggered by significant levels of ripe fish.

Arbitrary closure is not necessary. Closures may force midwater trawlers to displace towards the northeast and fish on smaller fish. There is no biological need for additional spawning protection because the SSB is way above target and threshold according to the 2012 stock assessment. The AP would like to see more analysis to justify a six-week spawning closure.

There was an observation that commercial sampling is not sufficient. The AP discussed again, just as I mentioned a few minutes ago, reinstating a tolerance for spawning fish. One benefit for tolerance is the opportunity to collect samples of herring for gonadal somatic index analysis used to inform the spawning area closures.

A tolerance is not expected to increase fishing pressure during spawning events because there is no market for spawned and feeding fish. Spawned herring is known to decay more rapidly and is not favored by bait dealers and other end users. The AP requested the PDT to explore this program; but as Melissa had said, so far we haven't had the support from the section.

Staff informed the AP that the PDT has completed an analysis of herring spawning efficiency, which we just had in detail. The fixed-gear rollover, a description again of the status quo; and the AP perspective where the AP did not believe adjusting the current fixed-gear rollover provision is necessary at this time.

The fixed-gear set-aside is a very small amount; therefore, not too many people would join this fishery. The proposed measure may create an allocation issue. In the past decade there has been no fixed-gear landings from November to December; therefore, no justification for using resources to implement adjustments to the federal interstate plans at this time.

I note that there is going to be a downeast fisherman who has some perspective in this fishery added to the AP, I believe, and that will be positive because we haven't had anybody active on the AP from the downeast area for some time. The empty fish hold provision; obviously, it came from the Council's Framework 4.

There was discussion about how the waivers could be used and also support by the AP for the requirement maintaining the recommendation for no limit to the number of waivers at this time to be consistent with the federal plan. To address concerns raised by state and federal law enforcement officers, the AP commented that refrigeration failure events are rare.

This measure may help tighten up and discourage wasteful fishing practices by a few individuals. The AP discussed reasons in which a vessel may not be able to offload herring after a trip. Some vessels, particularly smaller vessels may not have pumps on board, but the ports where additional vessels offload typically do. The AP suggested adding an additional option that specifies ability to pump fish off the vessel. That language is in the AP Report; and if this moves ahead, I think it is the language that bears the section's attention. I think, Mr. Chairman, other than the AP supporting Mr. Stanley becoming a member of the AP, the fixed-gear fisherman from Maine I just spoke of; that concludes my report. Thank you.

CHAIRMAN STOCKWELL: Thank you, Jeff. For everyone's clarification, Maine is recommending for your consideration a stop-seine fisherman from Mount Desert Island. It is one of our last pieces of business today. Questions for Jeff on the AP? Adam.

MR. ADAM NOWALSKY: In your report the AP suggests additional study on the six-week period; and the draft amendment says that earlier studies showed the typical duration in the spawning area is 40 days. What additional study is the AP suggesting and are they directly contradicting that earlier scientific information that the typical spawning period lasts 40 days?

MR. KAELIN: Well, the AP, of course, not being biologists we didn't have that number in front of us. The question that I asked of Micah earlier I think captures what the AP was getting at on Page 2, asking that there be more analysis to justify the additional two-week closure in terms of benefits to the spawning stock of Atlantic herring.

That was the question; that was the analysis that the AP was looking for; some estimate of what the benefit to the Atlantic herring resource would be with the extension to a six-week closure. While I'm at it, on Page 23 of Amendment 3, it basically says according to the 2012 stock assessment the spawning stock biomass of Atlantic herring in 2011 was over 500,000 metric tons, which is 230 percent above the SSBmsy of 157,000 metric tons. That gets to the nature of the AP's question I think, Adam.

CHAIRMAN STOCKWELL: Other questions for the AP? Steve.

MR. TRAIN: We know that certain times of the year, Jeff, that the fish get, I think we use the word mealy sometimes, they get soft right around the spawning, either before or after; and if we change the date that we harvest on these fish around that spawn, would it affect the usefulness of the fish harvested as far as how they would keep or how they would store?

MR. KAELIN: Well, I think with the feedy fish issue, I think most of the people who are around the fishery believe that waiting to open the fishery until June takes care of a lot of that feed problem. Spawned fish are not desirable. They're more desirable for lobster bait than they are for canning, which doesn't happen very much.

I would think if you put off the spawning closures for two weeks like Dr. Pierce was talking about, looking at the fact that we seem to be closing earlier, I don't see how that would negatively impact the quality of the fish. You'd be moving the closure into the period of time when the fish were spawning predominantly and minimizing that effect, I guess. That is my educated or partially educated answer, Steve. I think you guys will put just about anything in the bait bag if there is enough demand.

CHAIRMAN STOCKWELL: Other questions from the section? Any questions from the audience? Mary Beth.

MS. TOOLEY: Mr. Chairman, if I could, to speak to Adam's question as a member of the AP; and the AP met – I forget what the date was Jeff just said, but we met with the same document that you all met with in January. There was no new information. The information that the AP was seeking that you have today was not available. In fact, the AP met on one day and the PDT met the next day.

Even at our meeting, you know, getting the document out to the membership was really quite late and only upon request. The PDT had what you had in January, which you all thought was not adequate, which is why you sent it back to the PDT. The AP didn't have anything new to respond to.

CHAIRMAN STOCKWELL: Any further questions? Seeing none; we're moving on to enforcement.

LAW ENFORCEMENT COMMITTEE REPORT

CHAIRMAN STOCKWELL: Mike, are you making the Enforcement Committee Report?

LT. MICHAEL EASTMAN: The report speaks actually to your question about reasonableness for the empty holds. In our discussions that we've had, I believe it is reasonable. Once again, it seems that these events would be very few or not frequent. I think it would be reasonable, understanding now that they're not every time, and that certainly would be what we would look to enforce.

CHAIRMAN STOCKWELL: Any questions for Mike? Seeing none; we've heard all the reports; what is the pleasure of the section? Bill.

MR. ADLER: One thing I wanted to get clarified in the document on Page 18; and the 1.3.5.,

bait; there is another reason why the demand for herring as bait has gone up – and it isn't just because of increased fishing effort on lobster – it has to do with the decrease in other baits. I've seen this like in my harbor where we never used to use herring at all. I mean, it never even showed up.

We used groundfish and, of course, the groundfish is going down and it had caused the lobstermen to use other types of bait and herring came into play. I don't think you have to add this in or you could add it in that paragraph that also the decrease in other available lobster baits has also caused the increase in the use of herring. I also noticed it was interesting that herring eat cod eggs and we're in a cod situation. Mr. Chairman, is it time for me to make a motion to approve this document for public hearing; is that what you're looking for?

CHAIRMAN STOCKWELL: Unless there is any further discussion. Seeing none; Bill.

MR. ADLER: I will make the motion to approve this draft amendment for public hearing.

CHAIRMAN STOCKWELL: Seconded by Dave Borden. Discussion from the section? David.

DR. PIERCE: Mr. Chairman, I assume that if we pass this, we're not going to pass it with any preferred alternatives. It will just go out as is. I have my own preferred alternatives that I've selected primarily because of the discussion that has occurred around the table right now and the presentation given by Micah.

I'm not going to make any motion for specific preferred alternatives because we'll go well beyond our 2:15 deadline for adjourning this particular meeting. I do support the motion to approve. If we vote to approve this, we go without any preferred alternatives. If that is your intent, Mr. Chairman, okay.

CHAIREMAN STOCKWELL: That's correct.

DR. PIERCE: I'm satisfied with that.

MR. DAVID SIMPSON: This is something I asked Melissa about this morning. Figure 1 in the amendment, the Y-axis, label the SSB; didn't you talk about that already? This is just something that should be fixed before it goes out for public hearing.

MS. YUEN: Yes, I will be sure to correct the table in the FMP review.

CHAIRMAN STOCKWELL: Other comments from the section. Jeff, you had a question?

MR. KAELIN: Yes; would there be an opportunity for the AP to have at least a conference call during this public process now that we have that analysis from Micah, which we didn't have before. That would be helpful. Okay, thanks.

CHAIRMAN STOCKWELL: And before I go to the audience, I do have a question about the timeline and the necessity of having an August vote. You've tentatively scheduled public hearings in May and June, at the time when the industry is ramping up to go fishing. It may be problematic getting industry members to come to the public hearings at the time period. Is there a reason why we would want to have this action voted on in the summer versus the fall meeting? It would be a question probably to Toni.

MS. TONI KERNS: That can be to the pleasure of the board. It could be to staff's advantage since we are currently hiring someone to replace Melissa since she has moved on to California. If the board would like us to delay hearing until the fall, then we could bring this to the annual meeting in November.

EXECUTIVE DIRECTOR ROBERT E. BEAL: The only other thought is the annual meeting in November is in Florida, which is pretty far outside the range of herring. It doesn't mean we need to accelerate this to August, but it is

just something to think about. Maybe even a Herring Section Meeting outside of this, in conjunction with the council or something – maybe we just need to be a little more creative so we can be closer to where the folks that fish for herring are.

CHAIRMAN STOCKWELL: My sense is it doesn't make a difference whether it is Alexandria or Florida. Ritchie.

MR. WHITE: What about directing that the hearings take place in the evening; would that make a difference?

CHAIRMAN STOCKWELL: Purse seiners fish in the evening. David.

DR. PIERCE: Bob made one of my points about the meeting being in Florida. However, my primary reason for wanting to address this as soon as possible – that is late spring/summer, if at all possible – is I really don't want to go into the fall this year closing two weeks early. If that is what we've tended to do, I would not want to do it again,, especially since I can reflect over the last ten years or so and the numbers of calls I've gotten from fishermen, not necessarily sea herring fishermen but others, saying the close is wrong. Well, yes, it has been wrong; so I would support having the hearings as soon as possible with the hope that we could make changes for this upcoming fall.

CHAIRMAN STOCKWELL: What is the sense of the section; do you want to shoot for the summer or the fall meeting? Ritchie.

MR. WHITE: I'd agree with Dave; let's get it done. Clearly, they have the ability to send us written comments, which can pay special attention to if there is a lack of people at the public hearing.

CHAIRMAN STOCKWELL: Okay, before we move the question; are there comments from the audience? Mary Beth.

MS. TOOLEY: Mr. Chairman, a couple of things about the document. First, the alternatives are not listed in the Table of Contents and so they're very difficult to find. It would be helpful if the Table of Contents could lead the public to them. The analysis that is done for social impacts is two paragraphs plus one sentence; and it is all qualitative information.

There is nothing quantitative there on effort, communities, bait usage, the additional two weeks. There is just a whole bunch of information in that section that should at least be considered. Currently there is really a couple of statements from people and that is about it. Closing two weeks more could negative; not doing it could be positive; a few people said.

That to me is entirely inadequate and needs to be fixed in the document before you went out for public hearings. It does concern me, this timing that everyone is talking about and doing it at time when people are fishing; and certainly at the summer meeting there will be no herring fishermen here. Maybe I'll be here; I'd rather not be here; but I can assure you there will no herring fishermen here. Florida sounds good, but again probably no herring fishermen there either.

I wonder what is the problem; where is the urgency here to do this? I'm concerned about the utilization of egg beds for justification for extending closures out to six weeks when purse seine gear at that particular time doesn't even interact with them, so what is the benefit there. It is certainly a big negative to the fishery, but I don't see where the benefit arises.

There should be some discussion of that in the document. Currently I don't see that anywhere. The other thing I would remind the section is that if you look at 1983 and the stock was considered overfished with overfishing occurring; this program went into place and the stock started to rebuild. We now have a fully rebuilt resource that has been stable in recent

years, as many as 15 and maybe more. Catch has been stable. I don't really see what the problem is.

We have a program; no, it is not perfect. It was never designed to be perfect. It was designed so that we could provide some protection to spawning herring and allow a fishery to occur. We seem to have gone a long, long way from that original goal and objective here. I don't see taking this out to public hearing in its current state is worthwhile.

CHAIRMAN STOCKWELL: Any other comments from the audience? Seeing none; back to the section. I'll try to do this the easy way**. Is there an objection to moving Amendment 3 forward to public comment? Seeing none; Amendment 3 moves ahead**. Bill.

MR. ADLER: The timelines; are they flexible, like we just talked for a while about having public hearings and we're going to meet and sooner or later; and if we take this out, is it still in flux as to we could have a little leeway here?

CHAIRMAN STOCKWELL: We just agreed to try to move it ahead at the summer meeting. Unless folks want to reconsider that timeline; that is going the goal at which we're moving.

MR. ADLER: Goal, Mr. Chairman, but we've done this in the past; that we've said we're not ready and we're going to hold it for a while. We've done that in the past.

MR. WHITE: The delay that you discussed, Terry, the herring fishery goes until just before the annual meeting; so I guess I don't see – it is either a year delay or we go ahead as designed.

CHAIRMAN STOCKWELL: It's a selfish thing; I don't know whether any states are going to have to change their rules in order to implement a new system. If we come up with a new spawning scenario, despite the best work of our collective staffs, we'll have to do supporting rulemaking, so that just might be a delayed implementation. Bob.

EXECUTIVE DIRECTOR BEAL: On the timeline issue, since this is an amendment, there are some provisions in the Charter that we have to follow. We have to have the document on the streets for 30 days prior to the first public hearing and then we have to have 14-day open public comment period following the last public hearing.

We can do it between it now and August, but we're going to have to compress the schedule of the hearings, so they're pretty tight. As Toni mentioned, we are transitioning the staff personnel who will be handling herring and it will be a compressed schedule. We may be asking for help from the states to conduct some of the hearings without commission staff there.

I'm not sure exactly how many states will want to do hearings. For an amendment, we're obligated to do at least four public hearings. There shouldn't be a problem covering that; but we'll need to hear from the states on how many states will want to have hearings on this amendment pretty soon so we can start that scheduling.

The document, as Mary Beth requested, correct the Table of Contents, that could be done fairly quickly. We can start the 30-day clock and have the document on the street pretty soon, but we'll have to get that wrapped up and start the clock running and start planning these hearing pretty quickly.

2014 FMP REVIEW AND COMPLIANCE

CHAIRMAN STOCKWELL: Okay, if there is no further discussion, we are going to move along to Melissa's 2014 FMP Review and Compliance. This is an action item.

MS. YUEN: This is the review of the Atlantic Herring FMP and state compliance for the 2014 fishing year. First a couple of corrections in the

document; on Page 4 the spawning stock biomass numbers are incorrect. These are the corrected ones and I will make those changes when the document is approved.

The figure also has a different axis; it is just the units are off. Otherwise, the shape is still the same. Status of the fishery; the Atlantic herring is a commercial fishery and less than 1 percent is taken by the recreational fishery. Over time series from 1964 through 2014, as shown in this graph, annual landings from the U.S. Herring Fleet generally increased. In 2014 it totaled just over 104,000 metric tons or 189 million pounds with the majority taken by trawls and purse seiners.

This is the 2014 breakdown by state landings in thousands of pounds. Maine has landed the majority at 52 percent; Massachusetts following with 37 percent and then Rhode Island – and as a note, the New Hampshire number is confidential this year. Status of the management plan in 2014 was current through Addendum VI, which is the seasonal splitting and triggers.

This is a list of the management measures. The plan review team found that all states had management programs consistent with the FMP. New York requests continued de minimis status. The plan review team recommends granting de minimis status for 2014. In 2013 they landed 82,000 pounds; in 2014 it was 116,000 pounds, almost 117,000 pounds; and averaged 0.06 percent of coastwide since 1991. They do meet the criteria. That is my presentation for the FMP review.

CHAIRMAN STOCKWELL: Any questions for Melissa? Tom.

MR. THOMAS FOTE: Did New Hampshire have only three people landing fish; is that why they were confidential?

MS. YUEN: Cherie is shaking her head yes.

DR. PIERCE: I would move to approve the 2014 FMP Review and State Compliance Reports and New York's request for continued de minimis status.

CHAIRMAN STOCKWELL: Seconded by Jim Gilmore. Is there any discussion? Are there any objections? **Motion to approve the 2014 FMP Review and State Compliance Reports and de minimis status for New York is approved.** Melissa, we're on to our next agenda item.

UPDATE ON THE NEW ENGLAND COUNCIL'S COMMITTEE ACTIVITIES

MS. YUEN: I just wanted to give some updates on what the New England Fishery Management Council and NOAA Fisheries is doing for their Atlantic Herring FMP. First, an update on Amendment 8; this document was intended to establish a long-term control rule for setting an acceptable biological catch for herring. This would take into consideration the ecological role of herring as a forage species. In March through April the council staff held some scoping hearings.

Framework 4; the purpose was to address disapproved elements of Amendment 5 related to dealer-weighing provisions and net slippage. This is the document that included the empty fish hold provision that is in our Amendment 3. NOAA Fisheries just received the draft and they are reviewing it at this point. They plan to publish a proposed rule in June and follow with the comment period.

And then an update on the stock assessment, which is an operational update; on April 8th and 9th there was a peer review workshop for the operational assessment update. On May 13th the plan development team will be review the assessment and projections for specifications. They will develop acceptable biological catch recommendations for the Scientific and Statistical Committee. This committee will then meet on May 20th to review the results, and

they may recommend catch advice for the 2016 through 2018 specifications. That concludes my presentation.

REVIEW AND POPULATE ADVISORY PANEL MEMBERSHIP

CHAIRMAN STOCKWELL: One update on Melissa's report is that the timeline for the council's vote on Amendment 8 is the June council meeting in Newport, Rhode Island. Questions for Melissa? Okay, seeing none, we're on to almost our last agenda item. Melissa.

MS. YUEN: As Terry mentioned earlier, Maine submitted a candidate who is a member of the fixed-gear fishermen. His application is in the supplemental materials. His name is John Stanley.

MR. TRAIN: Mr. Chairman, would you accept me nominating John Stanley as a herring advisor?

CHAIRMAN STOCKWELL: Seconded by Dennis Abbott. Is there an objection to John Stanley joining our AP? Seeing none; I'll call him and give him the good news.

OTHER BUSINESS

CHAIRMAN STOCKWELL: All right, we're on to other business. This pertains specifically to Maine, New Hampshire and Massachusetts. The July 1st date we had hardwired in for our potential conference call to monitor the rate of catch on July 1st has got a conflict.

Monday, June 29th has been suggested as an alternative date. Does that work for everyone from these three states? Per Doug Grout's request, it will be scheduled in the morning. Do folks have a preference? We will pick a time; how about 10:00 o'clock? Okay, we've got a lot of heads nodding. Before we close out here, as we've heard this is Melissa's last day with us as the FMP Coordinator; and I would like to wish her a whole lot of luck in her new venture and thank her for all the hard work. (Applause) Ritchie.

MR. WHITE: Terry, the days-out meeting, we talked about possibly discussing the research set-aside; is this an appropriate time for that.

CHAIRMAN STOCKWELL: This would be a good time.

MR. WHITE: I guess we had questions as to the commission's role in the research set-aside, how it is formulated and what part do we play and if we have any ability to affect how it is implemented.

CHAIRMAN STOCKWELL: Well, certainly co-set the specifications with the council and it is a joint decision. I think with Dr. Pierce and myself and Doug on the Herring Committee and the council, we can have a pretty good – and Mark – we've got a pretty good connection there. I think as the council begins their work there, we can probably feed any preliminary discussions back to the section at our summer meeting. Does that game plan make sense to you?

MR. WHITE: Yes, that sounds great. Thank you, Terry.

ADJOURNMENT

CHAIRMAN STOCKWELL: Okay, if there is no further business, the Herring Section stands adjourned.

(Whereupon, the meeting was adjourned at 2:15 o'clock p.m., May 4, 2015.)

Atlantic States Marine Fisheries Commission

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MEMORANDUM

July 22, 2015

To: **Atlantic Herring Section**

From: **Terry Stockwell, Section Chair**

RE: **Draft Amendment 3 Discussion Points for the August Section Meeting**

Background

At the February 2014 Atlantic Herring Section Committee, an Amendment (which would require vessels owners to declare intended fishing gear type in advance of quota periods and fish holds to be empty prior to leaving the dock) and an Addendum (to review the efficacy of spawning areas in area 1A, consider changes to the spawning areas in Area 1A, and remove the rollover provision for the fixed gear quota set-aside) were initiated. To reduce the complexity of simultaneously working on an Amendment and an Addendum at the same time, the Section passed a motion to incorporate both into one amendment, Draft Amendment 3.

In the current form, Draft Amendment 3 proposes (1) changing the spawning monitoring program (default start dates, area boundaries, and length of the closure period); (2) removing the fixed gear set-aside rollover provision, and (3) requiring a vessel's fish hold to be emptied before leaving on a fishing trip.

The Board was seeking clarity on two issues in the Amendment document regarding spawning protections. First, is a state obligated to close a spawning area at the start of the default date if adequate sampling (as outlined in Addendum V) has been occurring but no spawning herring have been encountered? Also is the state obligated to close a spawning area if no spawning herring are detected during sampling but juvenile fish have been detected? For example, the eastern Maine spawning area was closed by ME DMR after no spawning herring were encountered during sampling as described by the FMP. The area was closed because the default closure date had been reached. Last year the eastern area was closed by default approximately two weeks later than the default date so that all the spawning areas would not be closed concurrently in early-mid September, even though no spawning hearing were detected. Secondly, is there a difference in the spawning timing between the western Maine and NH/MA areas? In recent years, sampling in Western Gulf of Maine, has closed fishing earlier than the NH/MA area which are detecting spawning herring later. Should the default closure dates be re-evaluated or should there be a delineations of the two areas.

Questions Concerning the Draft Amendment

Upon review of the Draft Amendment, it does not address the efficacy of spawning protection in the eastern Gulf of Maine as it retains status quo allowing for non-spawning fish to be landed until closing the area by a default date. It is unclear whether it's the goal of the Section to protect spawning fish by prohibiting landing of all Atlantic herring or to prevent fishing operations that might disrupt spawning activities in a large geographic area? This goal must be

defined. If the goal is the latter, then additional guidance from the Technical Committee will be necessary.

Motion to withdraw Draft Amendment 3 from public consideration and review in order to further develop the proposed spawning protection measures:

The Atlantic Herring Section met via conference call on June 15th, and Section members expressed concern about the highly technical nature of the proposed measures and the potential impacts of these measures to the fishing industry.

Next Steps
The outline below is intended to provide guidance to the Section on changes needed to the proposed spawning protection measures at the Section's meeting in August. The intent of these changes would be to clearly define the goal of eastern Maine spawning protection and to describe proposed methodologies and measures for the western Maine and MA/NH areas in a way that is understandable to stakeholders. It is understood that the Technical Committee would like the ability to provide annual projections to close areas for spawning rather than to be dependent upon GSI fishing sampling protocols. These annual projections will depend upon the number of samples so they will not likely be available until late August. Eastern Maine is data limited and potentially argues for a different spawning protection approach such as an immediate closure if/when spawning fish are encountered.

Purpose and need:

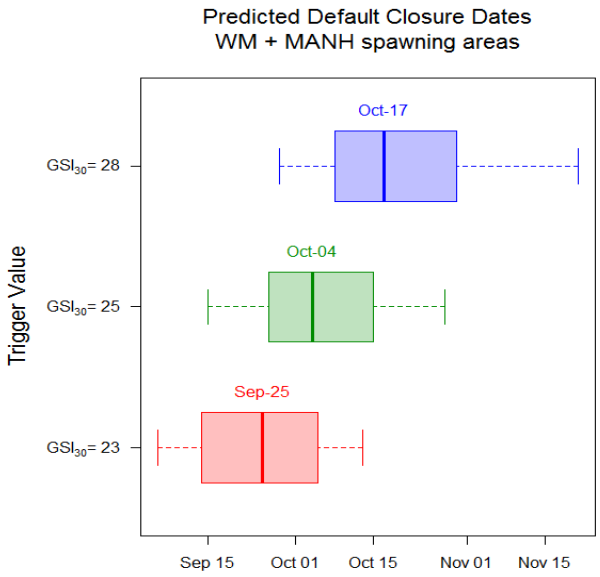
Define Eastern Maine Spawning Area goal and describe proposed methodologies and measures for the western Maine and MA/NH areas

1. Introduction
    a. History of spawning area management
        i. All the management actions taken (beginning with original FMP in 1993 and subsequently fine-tuned with multiple Amendments and Addendums)
        ii. Areas and timing were developed on an ad hoc basis using expert opinions from TC rather than data. After over a decade of sample data, the TC has re-examined.
    b. TC report summary with main points
        i. Spawning based on fish size rather than location
        ii. Above maybe confounded when there are strong year classes
        iii. Not all fish enter Stage V (ripe and running) at the same GSI level Approximately….
            1. 50% at GSI 20
            2. 70% at GSI 23
            3. 80% at 25
            4. 90% at 28
        iv. Projections allow for predictability and advanced notice; work best on larger area with more samples
        v. Literature and sampling suggest 6 weeks for an area to go from spawning to spent

2. Issue 1- Process
    a. Intro
    b. Options
        i. Status quo
        ii. TC -> ASMFC -> State: TC decides, forwards to ASMFC, ASMFC issues notice, State implement closures
    c. Rational: Lots of confusion on how/when things close. Each state currently sends out its own notices. Stakeholders think we don't communicate on the issues. Not a lot of transparency.
3. Issue 2- Area
    a. Intro: see TC document
    b. Status quo.
        i. Eastern Maine – data availability concerns
        ii. Western Maine
        iii. MA/NH
    c. As recommended by TC
        i. Eastern Maine
        ii. Combined Western Maine and NH
    d. Rational
        i. Combined sampling allows for more precise projections
        ii. Limits staff resources
        iii. As recommended by the analysis
        iv. Reduces reliance on default dates due to lack of samples
        v. Little data on eastern Maine-*leave as is*

Issue 3- Timing

    e. Issue 3a- Spawn stage. At what GSI value (see intro) as not all fish are spawning at a given GSI? (Could be based on either projection or actual sampling depending on outcome of "method" Issue 4)
        i. GSI 20 to 30
        ii. Based on level of risk: lower more precautionary
        Suggest GSI of
            1. 23 -70% of fish spawning
            2. 25-80% of fish spawning
            3. 28-90% of fish spawning
    f. Issue 3b- Defaults
        i. Status quo
        ii. No defaults: Implies that if fishery doesn't catch adult fish to use for either "method" (below) that the area never closes
        iii. Based on median date (See fig below) Note leave EGOM status quo.
        iv. Possible add-on: fast track closure mechanism to close any are if a sample collected from the fishery is above the a desired GSI (23, 25, or 28 as above)



g. Issue 3 c- end of spawning closure
    i. Status quo- 4 weeks with additional 2 weeks if sampling shows fish still spawning
    ii. 6 weeks-TC recommendation 6 weeks based on literature and sampling
    iii. 4 weeks- no provision to reclose.

4. Issue 4- <u>Method</u>
    a. Status quo-but not currently consistent among states
    b. Use a projection as outlined by the TC
    c. Flexible: For the TC to determine based on both expert (TC) input and projection- *see Issue 1: Process*
    d. Rational
        i. Current method not consistent between states (Maine needs samples, MA can do on projection)
        ii. Current method too rigorous and allows no flexibility
        iii. Current method provides no advance notice to the industry
        iv. Current method requires a lot of resources to implement and is expensive
        v. Projection can help with above
        vi. Projection indicates longer time needed to achieve management goals of protecting "the majority" or good portion on spawning fish.
        vii. Projection will set MA/NH and WGOM later than current- may cause gear conflict in EGOM
        viii. Perception of reduced opportunity
            1. But the area is TAC controlled and most years will indicate closing after Oct 1
        ix. Projection works best with a larger area but can be used under current spawn areas
5. Attachment: the TC report

M 15-66

Atlantic States Marine Fisheries Commission

Technical Report on Gonadal-Somatic Index-Based Monitoring System for Atlantic Herring Spawning Closures in US Waters

for Draft Amendment 3 to the Atlantic Herring Fishery Management Plan

by Micah Dean (Massachusetts Division of Marine Fisheries)
and Dr. Matt Cieri (Maine Department of Marine Resources)
of the ASMFC Atlantic Herring Plan Development Team

January 2015

Introduction

While Atlantic herring reproduce in the same general season each year, the onset, peak and duration of spawning may vary by several weeks annually (Winters and Wheeler, 1996). It is believed that this behavioral plasticity is an evolutionary adaptation that takes advantage of optimal oceanographic conditions (e.g, temperature, plankton availability, etc.) to maximize offspring survival (Sinclair and Tremblay, 1984; Winters and Wheeler, 1996). In an effort to protect the integrity of the spawning stock and allow for increased recruitment, the ASMFC developed a system of seasonal spawning closures in the early 1990s that accounted for this interannual variability in spawning time. Historically, managers have focused on protecting the bulk of spawning during the fall season (August through October), but Atlantic herring are also known to spawn from late July through December. Acknowledging that macroscopic identification of the maturity stage of individual fish is a somewhat subjective process, the closure rule was based on a female gonadal somatic index (GSI), which is assumed to increase linearly as herring approach full maturity (Figures 1 and 2; Equation 1).

1) $GSI = 100 \times [W_{gonad}]/[W_{gonad}-W_{total}]$

At the time of the rule's creation, it was recognized that smaller herring generally have lower GSI values than larger herring (Figure 3). Consequently, separate triggers were established for two size classes: GSI = 15 for 23-27 cm; and GSI = 20 for 28+ cm. According to the closure rule, once two consecutive samples of herring achieve an average female GSI in excess of either trigger, the fishery closes for four weeks. Because all GSI samples are obtained directly from the commercial herring fishery, it is not always possible to collect sufficient data to inform the start of the spawning closure. As such, default closure dates were established for each of three areas that presumed a general north-south progression of spawning (Table 1). Despite the design of the closure system, it is fairly common to find spawning herring in fishery samples after the closure. To counteract this, a closure extension rule was established that mandated a two-week additional closure if fishery-dependent sampling revealed that greater than 25% of a post-closure sample contained fish in spawning condition (Stage V or VI).

When the rules were first established in the early 1990s, limited data were available to derive the critical parameters of the GSI-based spawning closure system (i.e., size categories; GSI triggers; default dates; closure duration). Given recent concerns over the adequacy of the system, which initiated the development of Draft Amendment 3 to the Interstate Atlantic Herring Fishery Management Plan (FMP), the Herring Plan Development Team felt that a re-examination of these parameters was warranted in light of an additional two decades worth of GSI sampling data.

Factors Affecting GSI

There is substantial variability in average GSI from one sample to the next, and it is often unclear whether this change is tracking the expected progression of gonad development of the population or is simply a function of the fish size, sample location, gear type, or year. The combined MADMF/MEDMR dataset of fishery-dependent samples includes 8,474 GSI observations (5,435 maturity observations) from 385 samples and covers three inshore spawning areas (Eastern Maine, Western Maine, Massachusetts-New Hampshire); three gear types (purse seine, midwater trawl, and bottom trawl); 15 years (1998-2013); three months (Aug-Oct); and 13 length bins (from 22 to 34 cm). Unfortunately, data are lacking for many factor level combinations (e.g., MWT samples are generally unavailable at the same time/area as other gear types), thereby preventing an analysis of the simultaneous influence of each factor on GSI/maturity using the full dataset. Nonetheless, we can evaluate the influence of several factors by examining a subset of the data. To this end, a generalized linear model (GLM) relating the GSI of female herring to a suite of factors (GSI ~ DAY + YEAR + LENGTH + AREA) was constructed using data from non-midwater trawl trips from the years 2004-2013.

Size

The current size-based closure system assumes that smaller herring achieve full maturity at a lower GSI than larger herring. While this has been demonstrated for the closely related Pacific herring (Ware and Tasanichuk, 1989), there is little evidence for such a relationship in our sample data (Figure 4). An alternative explanation for the observed size-GSI relationship (Figure 3) is a size-dependent arrival on the spawning ground (i.e., larger herring spawn earlier). This phenomenon had been documented in several other herring populations (Boyar 1968; Ware and Tanasichuk, 1989; Oskarsson et al., 2002; Slotte et al., 2000), and is believed to be related to a size-dependent maturation process (Ware and Tanasichuck, 1989), or swimming speed (i.e. larger herring arrive earlier to spawning grounds) (Slotte et al, 2000). Regardless, there is clear evidence of a decreasing average fish size as the spawning season progresses (Figure 5).

While it is true that smaller GOM herring generally have lower GSI than larger fish (at a given point in time), it is likely that all sizes achieve a similar maximum GSI, just at different times. As expected, the GLM estimated a strong positive relationship between length and GSI (Table 2 -

for every 1 cm increase in length, there is a corresponding increase in GSI of 1.84 points). This slope for the LENGTH parameter can be used to standardize GSI observations to a common herring size, thereby removing the influence of length from GSI sample data.

Year

The strongly significant year effect indicates that the GSI for a given length/date may shift by six (6) or more points from year to year (Table 3). This suggests that the onset of spawning can vary by five or more weeks, underscoring the need for a GSI-based monitoring system instead of fixed closure dates. Several other studies corroborate this level of interannual variability in spawning time (Boyar 1968; Grimm 1983; Stevenson 1989; Winters and Wheeler 1996).

Day

The slope of the DAY parameter (0.19) in the GLM model represents the rate at which GSI increases per day, after controlling for the effects of other factors. Theoretically, this rate could be used to forecast the date when GSI (after adjusting for LENGTH) exceeds a trigger value from a single sample of fish. However, there is likely some interannual variability in this rate, and it would be more prudent to use samples from within a season to estimate the slope of the DAY parameter to forecast a closure date.

Area

The Eastern Maine (EM) spawning area was identified as having a significantly higher GSI than the other two areas, meaning that spawning occurs earlier in EM than elsewhere. Interestingly, the Western Maine (WM) and Massachusetts-New Hampshire (MA-NH) spawning areas do not appear to have significantly different spawning times. This suggests that these two areas should have a similar default date, or could even be combined to increase the number of samples available for informing spawning closures. Several earlier studies describe the timing of herring spawning in the GOM through the use of fishery-dependent maturity data and direct observation of demersal egg beds (Table 3 - Boyar et al., 1973; Cooper et al., 1975; McCarthy et al., 1979; Stevenson 1989). While these investigations confirm an earlier spawning time in EM than in MA-NH, there is no historical evidence to inform the timing of spawning in the WM area.

Fishing Gear

An alternative GLM was attempted that included gear type (bottom trawl vs purse seine) as an additional predictor variable (GSI ~ DAY + YEAR + LENGTH + AREA + GEAR); While GEAR was a marginally significant predictor of GSI, this more saturated model did not improve fit to the data, as measured by the Bayesian Information Criterion (BIC). This suggests that it is appropriate to combine samples obtained from these gear types. It should be noted that midwater trawl samples were excluded from this analysis, as this gear rarely operates at the same

time/location as the other gears, preventing an objective determination of whether this gear type influences the GSI of a sample.

Proposed Changes to the Closure System

Given that larger herring spawn earlier, it makes sense to standardize GSI observations to a large size class (e.g., 30 cm – 95th percentile of observed lengths), so that the closure period is inclusive of most spawners. Therefore, the observed GSI of each individual fish should be adjusted using the formula (Formula 2), where *a* is the slope of the length parameter from the GLM (*a*=1.84) and *b* is the reference length class (*b*=30 cm):

2) $GSI_{30} = GSI_{obs} + a * (b - TL_{cm})$

Herring are determinate spawners, releasing all of their eggs in a single batch (Kurita and Kjesbu, 2008). Therefore, spawning can be considered imminent at the end of Stage V (i.e., full maturity). However, a range of GSI values has been observed within Stage V that likely represents the final progression of the maturity cycle (Figure 6). Therefore, a point near the high end of the distribution of Stage V GSI values could be considered a reasonable measure of the onset of spawning. Managers could select different points from this distribution as a trigger value, depending on their objectives or risk tolerance. A higher value would shift the fishery closure nearer to the expect onset of spawning, whereas a lower value would shift the closure earlier to provide more protection to pre-spawning fish.

Once the fishery-dependent sampling program has a sufficient number of samples (e.g., a minimum of three) with a significant positive slope to the GSI_{30}~DAY relationship (α= 0.05), a fishery closure date could be forecasted (i.e., the date when GSI_{30} exceeds $GSI_{trigger}$). This forecast could be updated as additional samples are acquired and an official closure date selected when the forecast is within a certain number of days (e.g., 5 days). If insufficient samples are available to predict the $GSI_{trigger}$ date prior to the default closure date, the default date would apply.

Using GSI sample data from previous seasons, we can estimate the date at which a $GSI_{trigger}$ would have been reached in each year (Figure 7). The average trigger date provides some representation of what an appropriate default closure date might be (Figure 8). Depending on the trigger value used, the average date for the MA-NH area is 4-24 days later than the most robust literature account for this area, which observed the arrival of herring egg beds on Jeffreys ledge between 1972 and 1978 (Table 3 – McCarthy et al., 1979). Most of the contemporary GSI sampling effort has been focused inshore of Jeffreys Ledge, suggesting spatial and/or interannual variation of spawning time within this area. Unfortunately, there are no literature sources available to inform the default date for Western Maine. The GLM model found no significant difference between the two areas; therefore, it appears reasonable to combine the two areas,

increasing the number of samples available to inform a larger Tri-State (WM-MA-NH) spawning area (Table 2). With such few GSI samples available to describe the EM area, the historical information of when herring eggs have been observed on lobster traps is likely more applicable for this area (Table 3 – Stevenson 1989).

Contemporary GSI observations are not particularly useful for describing the duration of the spawning period, because fishery-dependent samples are not available once the closure commences. However, several earlier studies in the GOM concur that the typical duration of herring spawning within a particular area is approximately 40 days (Table 3). Therefore, it appears the current 4-week closure period is inadequate and increasing to a 6-week closure (42 days) would provide a better match for the available information on the duration of GOM herring spawning.

By using the sequence of individual samples obtained in previous years, we can apply the proposed closure rules to simulate the performance of the forecasting algorithm. For example, in 2011 a September 11 closure would have been announced on September 6, assuming a choice was made to select a closure date at five days prior (Figure 9).

There are several benefits to the GSI-based closure system as outlined in this paper:

1) By providing a forecasted closure date once an increase in GSI_{30} is detected, all interested parties (samplers, managers, industry) will have advance notice as to when the spawning closure is likely to occur, allowing them to plan their activities accordingly.
2) Because the forecasting model uses the GSI information from all samples to project a closure date, there isn't pressure to obtain two consecutive samples just prior to spawning, a task that has proven difficult in many years. For this reason, default closure dates due to insufficient samples would occur less often.
3) Aligning the assumptions of the closure system with the current understanding of the reproductive ecology of herring will improve the accuracy of and maximize the effectiveness of spawning closures.
4) By directly taking into account the effect of length on GSI, perceived discrepancies between sampling programs (MADMF, MEDMR) can be reconciled.

Ideally, we would have GSI and maturity samples from before, during, and after the spawning season. This would provide a better idea of maximum GSI (i.e. appropriate trigger value), and how that coincides with the presence of Stage V (full maturity) and Stage VI (spawning) fish. Unfortunately, because the GSI-monitoring program is entirely fishery-dependent, there are essentially no samples available once the spawning closure begins. A directed fishery-independent effort to obtain herring samples during and after the closure could provide this information and be used to further refine the parameters of the closure system in the future.

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Table 1. Current default dates for herring spawning closures in the GOM

Spawning Closure Area	Default Closure Date
Eastern Maine (EM)	August 15th
Western Maine (WM)	September 1st
Massachusetts/New Hampshire (MA-NH)	September 21st

Table 2. Output from GLM (GSI ~ DAY + YEAR + LENGTH + AREA).

ANOVA Table:

	Df	Deviance	Resid. Df	Resid. Dev	F	Pr(>F)
NULL			4052	131631		
J	1	18802	4051	112829	1032.017	< 2.2e-16 ***
as.factor(YEAR)	9	4554	4042	108275	27.773	< 2.2e-16 ***
LENGTH	1	32700	4041	75575	1794.853	< 2.2e-16 ***
AREA	2	1990	4039	73585	54.627	< 2.2e-16 ***

Coefficients:

	Estimate	Std. Error
(Intercept)	-83.585212	1.949353
J	0.190262	0.005731
as.factor(YEAR)2005	1.514119	0.595370
as.factor(YEAR)2006	2.999203	0.673709
as.factor(YEAR)2007	1.297457	0.551941
as.factor(YEAR)2008	1.573861	0.630355
as.factor(YEAR)2009	1.881865	0.572551
as.factor(YEAR)2010	0.889922	0.591108
as.factor(YEAR)2011	6.144499	0.572099
as.factor(YEAR)2012	5.147404	0.576039
as.factor(YEAR)2013	5.373736	0.572403
LENGTH	1.838863	0.042996
AREAMA-NH	-2.504169	0.325561
AREAWME	-2.775418	0.265547

Table 3. Literature accounts of the timing and duration of herring spawning in the GOM.

Study	Years	Method	Area	Average First Spawning	Average Last Spawning	Average Season Length (days)
Boyar et al., 1973	1972	Maturity	MA-NH	Sep 10	Oct 20	40
Cooper et al., 1975	1974	Eggs (scuba)	MA-NH	Sep 29	Oct 25	26
McCarthy et al., 1979	1972-1978	Eggs (scuba, sub, grab)	MA-NH	Sep 20	Oct 30	40
Stevenson 1989	1983-1988	Eggs (lobster traps)	EM	Aug 28	Sep 20	40

Figure 1. Observed GSI of female herring by ICNAF maturity stage from 2013 fishery dependent samples from the MA-NH spawning area.

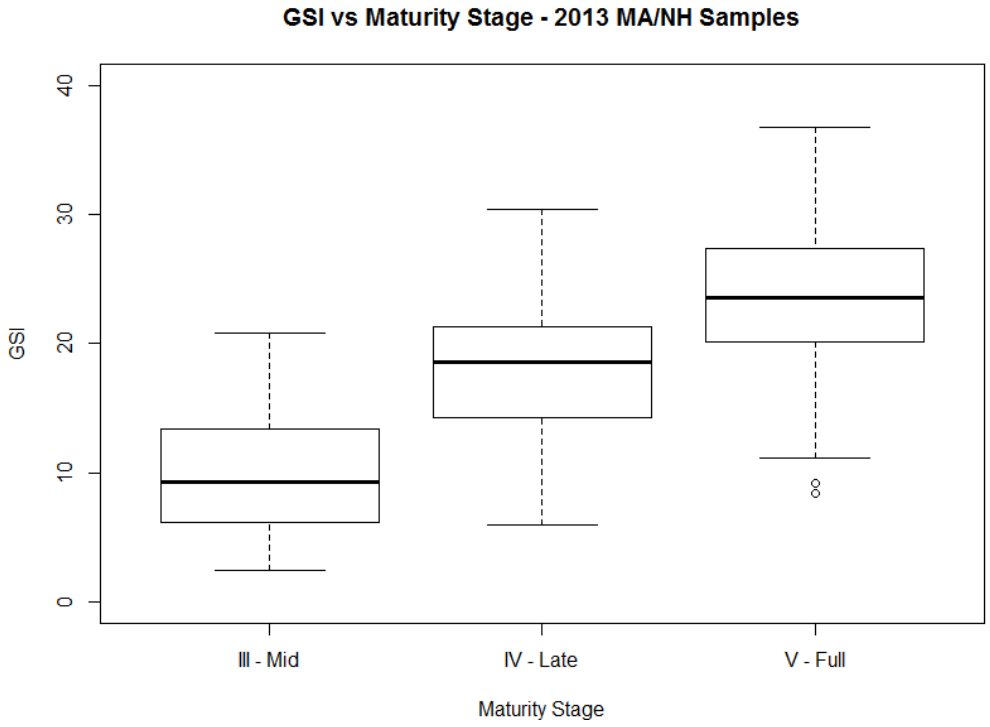


Figure 2. Female GSI by date from 2013 MA-NH samples. The red line indicates a significant positive linear relationship between GSI and sample date.

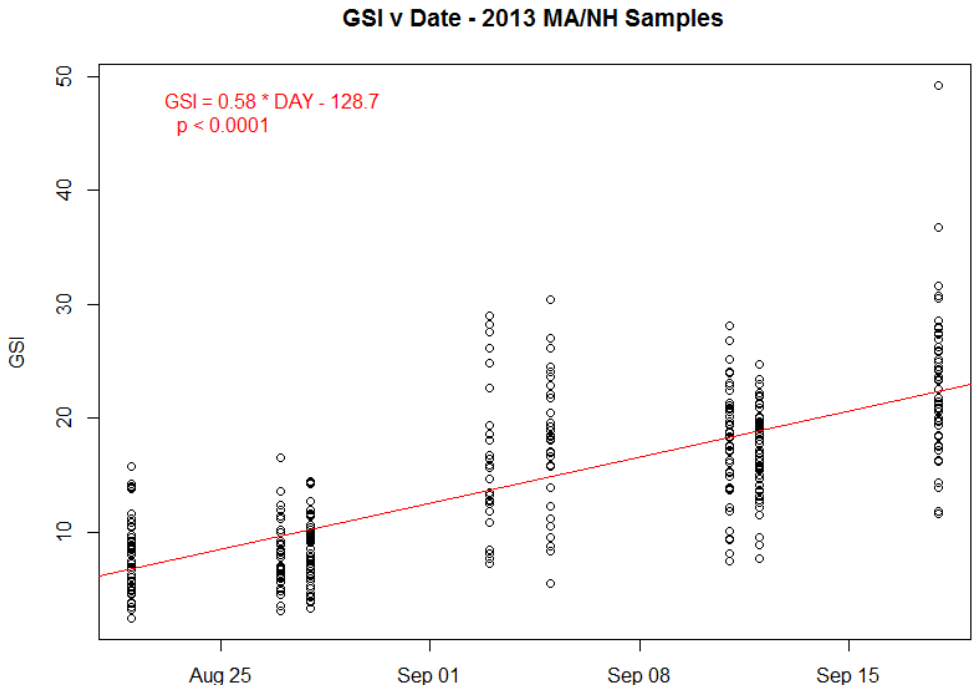


Figure 3. Boxplots of GSI by length bin from all sample data (based on total length).

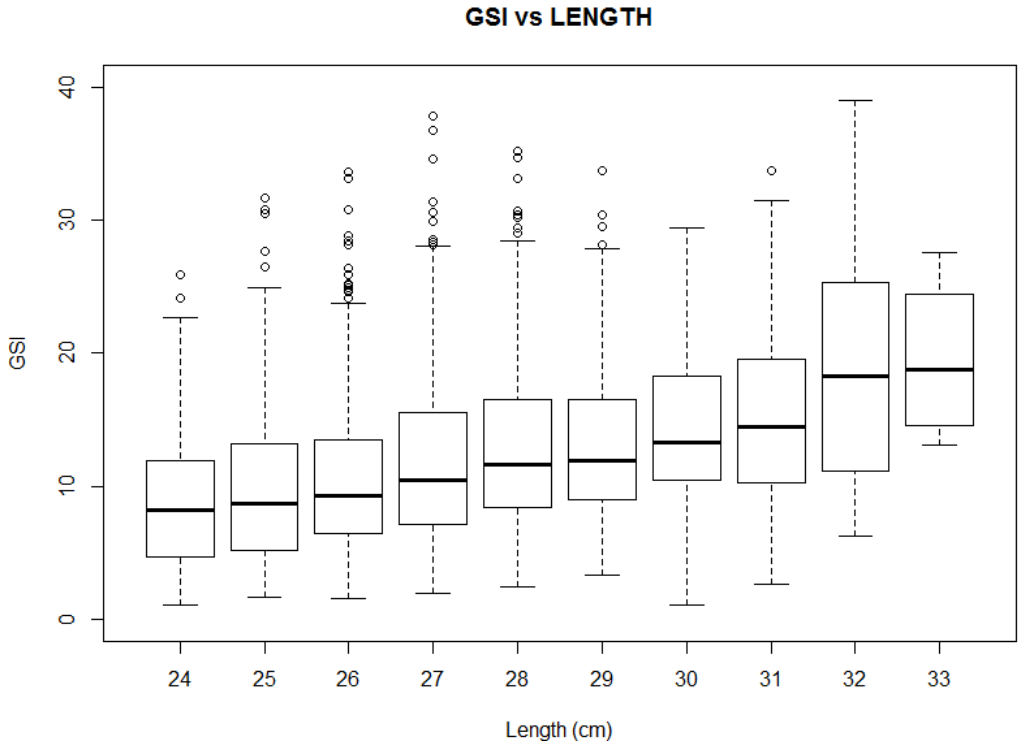


Figure 4. Boxplots of GSI at Stage V (full maturity) by length bin. The current size-based GSI triggers are shown in red (GSI = 15 for 24-27 cm; GSI = 20 for 28+ cm).

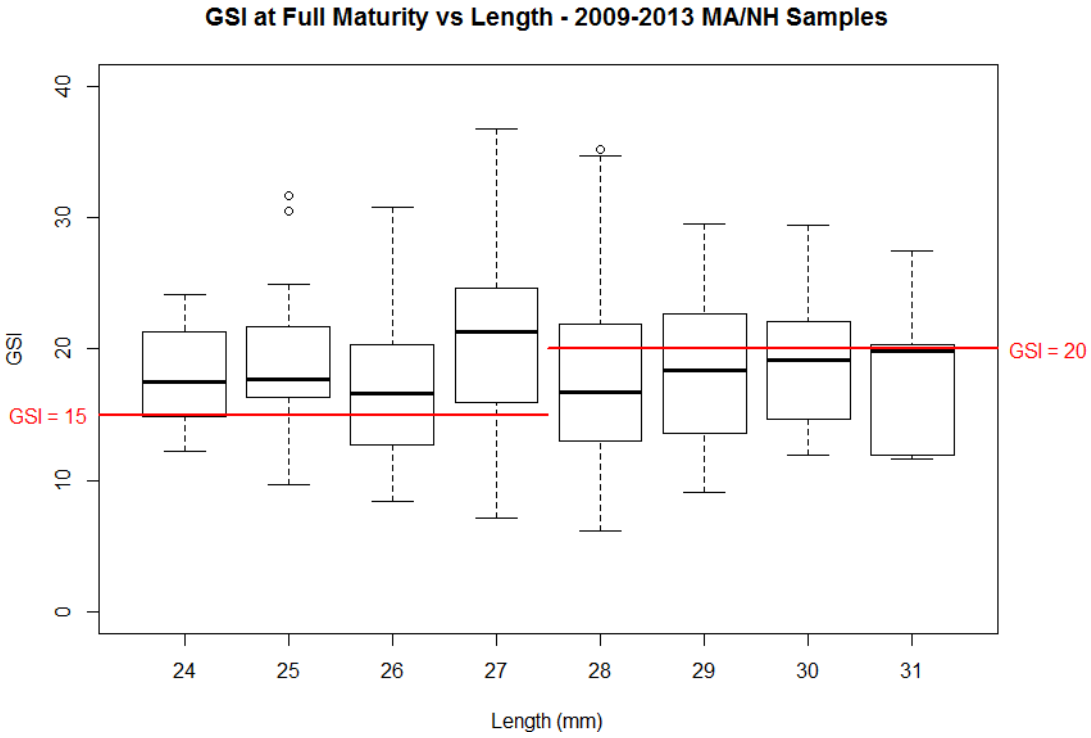


Figure 5. Observed fish length from MEDMR sampling of the MA-NH fishery in 2010. Note the significant decrease in observed fish length over the course of the season.

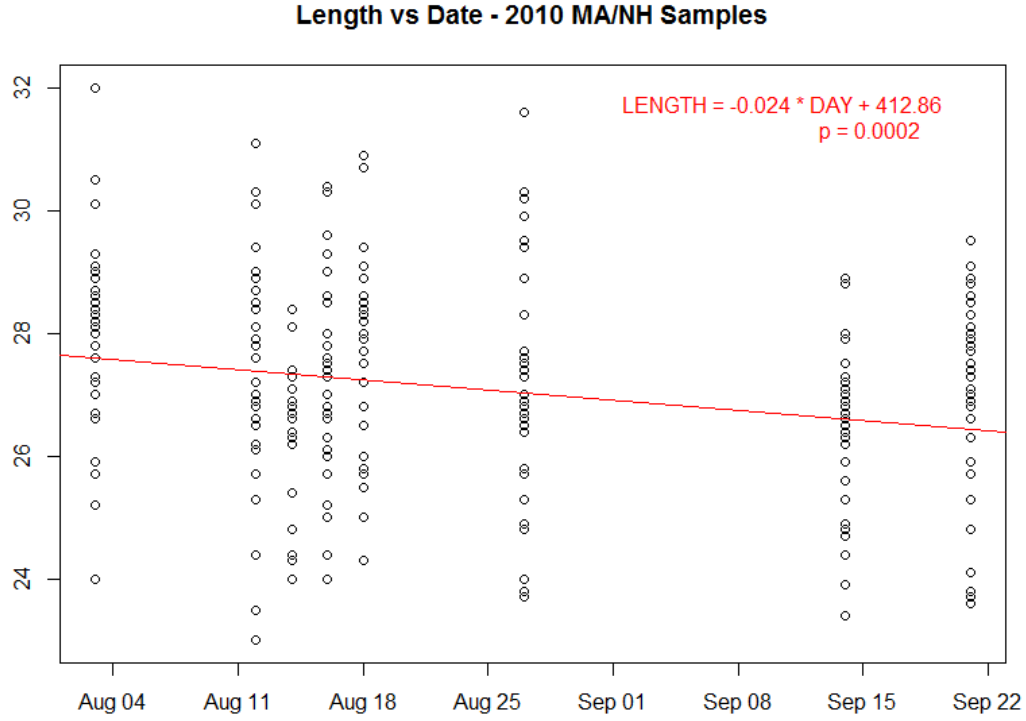


Figure 6. Distribution of GSI values for herring classified as Stage V (full maturity). The GSI value at a series of quantiles are shown in red.

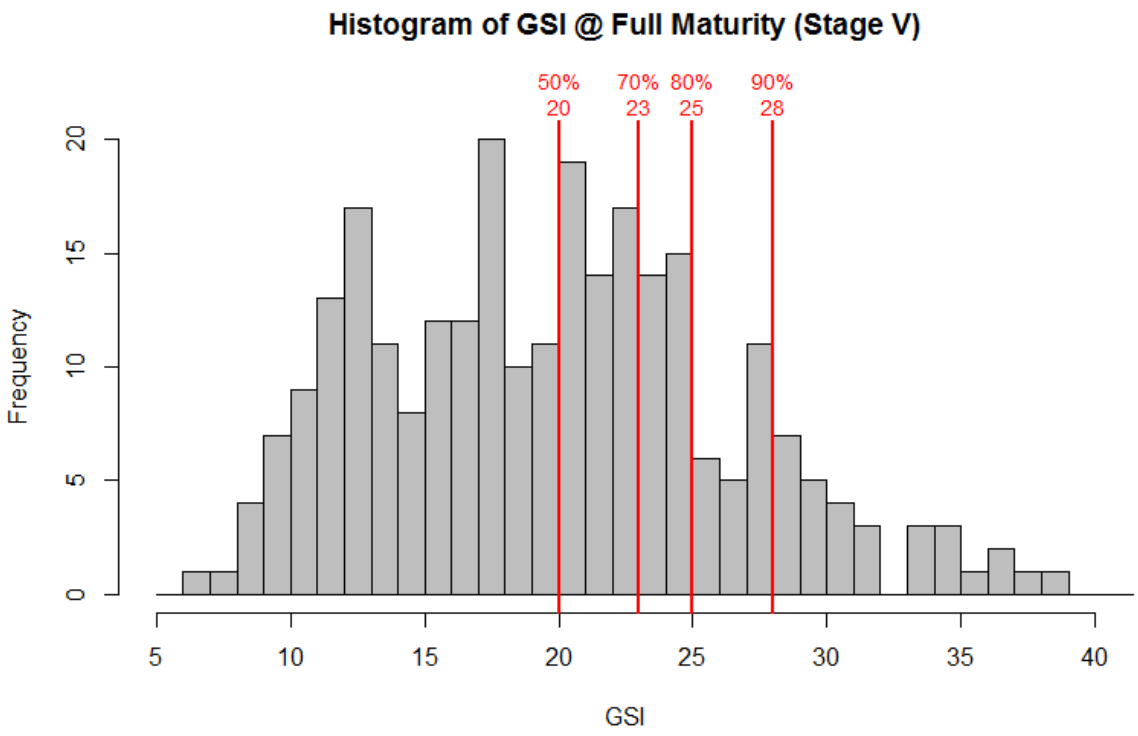


Figure 7. Forecasted dates when GSI_{30} exceeded a range of $GSI_{trigger}$ values for sample data from the Western Maine (WM) and Massachusetts-New Hampshire (MA-NH) spawning areas combined. A diagonal line represents a significant linear relationship between GSI_{30} and sample date. Gray points with error bars represent the mean GSI_{30} per sample +/- 2 standard errors.

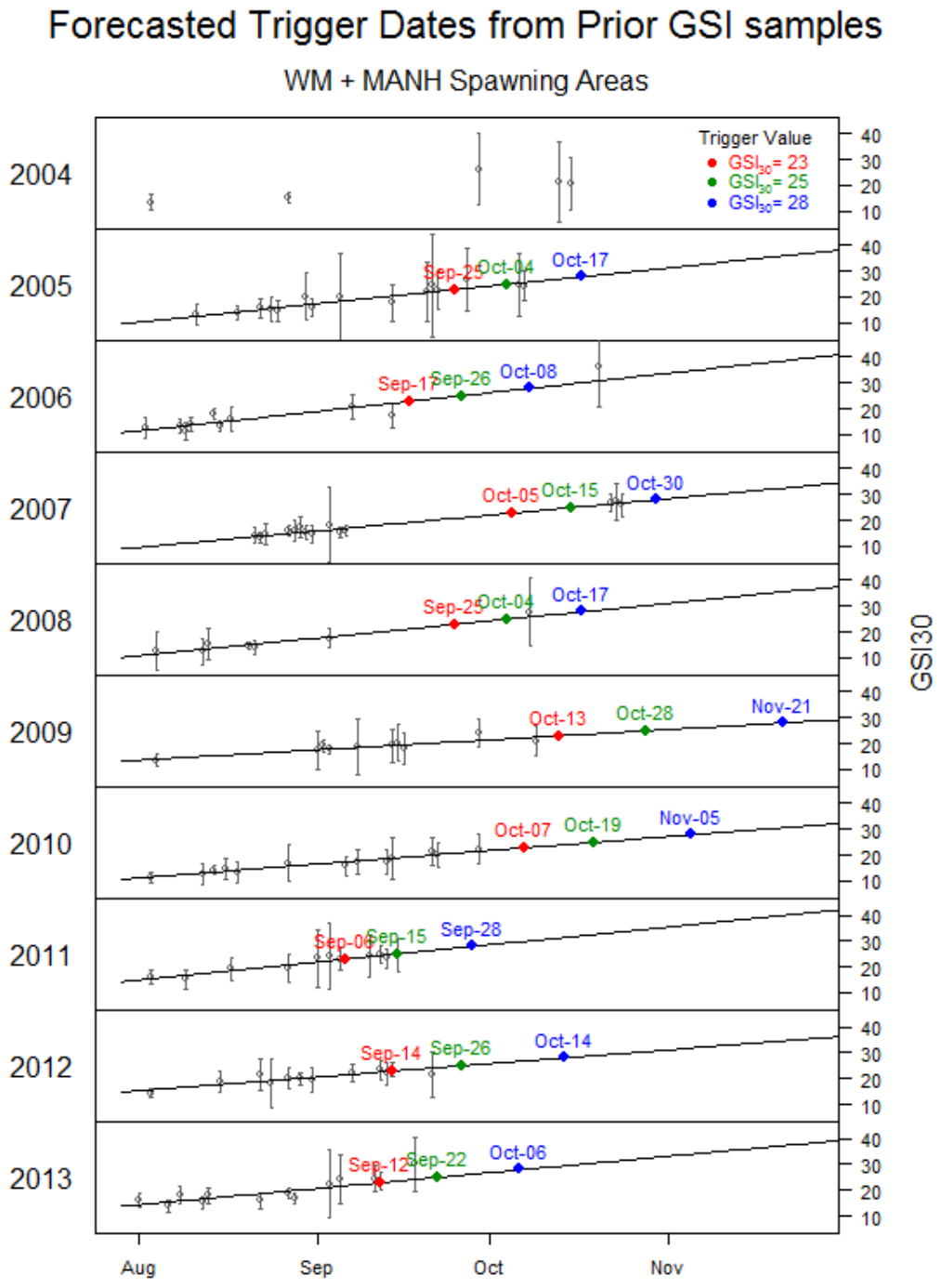


Figure 8. Boxplots of forecasted trigger dates for the WM and MA-NH spawning area combined (same data from Figure 7). The median date for each trigger value is labeled and could be used to set a default closure date for when sufficient samples are unavailable to forecast a trigger date.

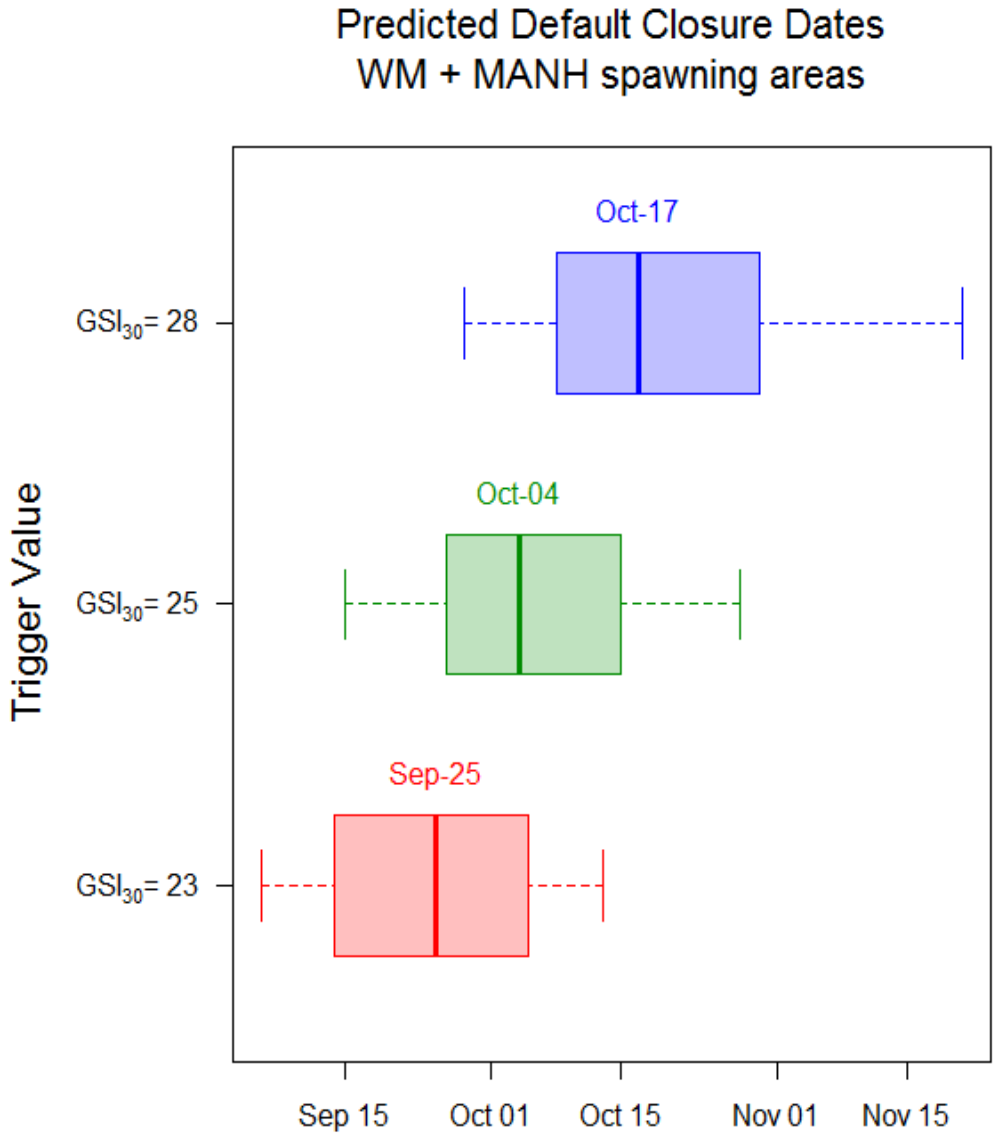
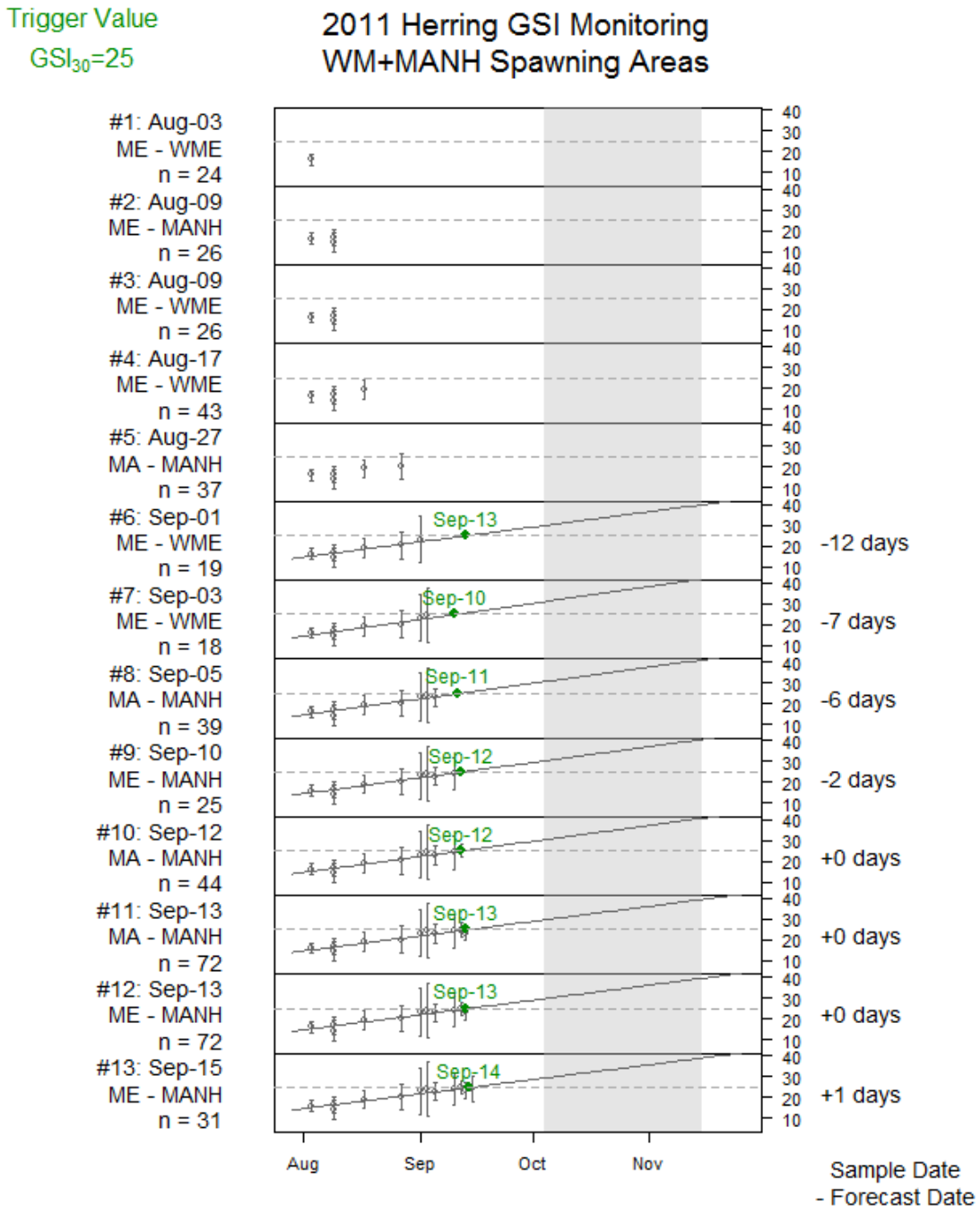


Figure 9. An example implementation of a modified GSI-based closure system using 2013 sample data from the MA-NH spawning area. A significant linear increase in GSI_{30} is detected after six samples (Sep-1st). Projecting this relationship forward, a closure date is forecast for Sep-13th. As additional samples are collected, the linear relationship and forecasted closure date are updated. If the choice was made to select a closure date at 5 days prior, a Sep 11th closure would have been announced on Sep 6th. The gray region identifies default t closure period associated with the trigger value used in this example (GSI_{30} = 25).



Atlantic States Marine Fisheries Commission

American Lobster Management Board

August 4, 2015
12:45 p.m. – 5:00 p.m.
Arlington, Virginia

Draft Agenda

The times listed are approximate; the order in which these items will be taken is subject to change; other items may be added as necessary.

1. Welcome/Call to Order *(D. McKiernan)* 12:45 p.m.

2. Board Consent 12:45 p.m.
   - Approval of Agenda
   - Approval of Proceedings from May 2015

3. Public Comment 12:50 p.m.

4. 2015 American Lobster Benchmark Stock Assessment **Action** 1:00 p.m.
   - Presentation of Stock Assessment Report (*B. Glenn)*
   - Presentation of Peer Review Panel Report (*J. Hoenig)*
   - Consider Acceptance of Benchmark Stock Assessment and Peer Review Report for Management Use

5. Discuss Potential Management Response to the Benchmark Assessment 2:00 p.m.
   (*D. McKiernan*)

6. Update on Recent Federal Action Concerning the Omnibus Habitat Amendment 2:30 p.m.
   - Update on New England Fishery Management Council Action (*T. Stockwell*)
   - Consider Tabled Motion from May 5, 2015 **Possible Action**
     Move to direct staff to initiate the process of developing an addendum to the Lobster FMP to prohibit all mobile gear in closed area II north of 41°30' during June 15th to October 31st should the area reopen. (D. Borden)

7. Jonah Crab Fishery Management Plan for Final Approval **Final Action** 3:00 p.m.
   - Review Options (*M. Ware*)
   - Public Comment Summary (*M. Ware*)
   - Advisory Panel Report (*M. Ware)*
   - Law Enforcement Committee Report (*M. Robson*)
   - Consider Final Approval of Jonah Crab Fishery Management Plan

8. Update on Lobster Trap Transfer Database (*M. Ware*) 4:15 p.m.

9. Discuss New England Fishery Observer Program 4:30 p.m.

10. Other Business/Adjourn 5:00 p.m.

The meeting will be held at The Westin Alexandria, 400 Courthouse Square, Alexandria, Virginia 703.253.8600

MEETING OVERVIEW

American Lobster Management Board Meeting
Tuesday, August 4, 2015
12:45 p.m. – 5:00 p.m.
Alexandria, VA

Chair: Dan McKiernan (MA) Assumed Chairmanship: 08/14	Technical Committee Chair: Bob Glenn (MA)	Law Enforcement Committee Representative: John Cornish (ME)
Vice Chair: David V.D. Borden (RI)	Advisory Panel Chair: Vacant	Previous Board Meeting: May 4, 2015
Voting Members: ME, NH, MA, RI, CT, NY, NJ, DE, MD, VA, NMFS (11 votes)		

2. Board Consent

- Approval of Agenda
- Approval of Proceedings from May 2015

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-in 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 Chair will not allow additional public comment on an issue. 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. 2015 American Lobster Stock Assessment (1:00-2:00 p.m.) Action

Background

- The 2015 benchmark stock assessment was completed in May **(Briefing Materials)**.
- A peer review of the assessment was held in June (**Briefing Materials**)

Presentations

- Assessment overview by B. Glenn
- Peer review summary by J. Hoenig

Board actions for consideration at this meeting

- Accept the Benchmark Stock Assessment Report and Peer Review Report for management use.

5. Discuss Need for Management Response to Benchmark Assessment (2:00 – 2:30 p.m.)

Background

- After reviewing the stock assessment, the Board may consider a management response

Presentations

- Discussion facilitated by D. McKiernan, Chair

6. Update on Recent Federal Action Concerning the Omnibus Habitat Amendment (2:30-3:00 p.m.) Potential Action

Background

- At the May Board meeting, the Board tabled a motion to ban mobile gear in Closed Area II *north of 41 °30'* from June 15-October 31
- In June, the NEFMC finalized its vote on the Omnibus Essential Fish Habitat Amendment 2, prohibiting scallop dredging north of 41-30 N from June 15-October 31
- NEFMC does not believe further ASMFC action is needed for Closed Area II (**Briefing Materials**)

Presentations

- Update on NE Council Action by T. Stockwell
- Consider Tabled Motion from May 5, 2015 by D. Borden
  Move to direct staff to initiate the process of developing an addendum to the Lobster FMP to prohibit all mobile gear in closed areas II north of 41 degrees 30 minutes during June 15th to October 31st should the area reopen

Board actions for consideration at this meeting

- Consider if the tabled motion should be brought back to the Board

7. Draft Jonah Crab Fishery Management Plan for Final Approval (3:00 - 4:15p.m.) Final Action

Background

- In October 2014, the Board initiated a draft fishery management plan for Jonah crab to address the increased harvest and market demand, as well as the lack of management of the species
- The Plan Development Team drafted a Jonah Crab Fishery Management Plan that was approved for public comment at the May Board meeting (**Briefing Materials**)
- Staff conducted public hearing in 5 states (**Briefing Materials**) and public comment closed July 24, 2015

Presentations

- Review of Draft Jonah Crab FMP Public Comments and options by M. Ware (**Supplemental Materials**)
- Law Enforcement Committee Report by M. Robson (**Supplemental Materials**)
- Advisory Panel Report (**Supplemental Materials**)

Board actions for consideration at this meeting

- Final Approval of the Jonah Crab Fishery Management Plan

8. Update on Lobster Trap Transfer Databased (4:15 – 4:30 p.m.)

Background

- The LobSTAH database continues to address the goals of the final database, discuss ways to ensure the allocation and permit information are properly maintained at the state, federal, and ACCSP level and review timing of trap allocations and trap cuts
- The database will be operational this fall for transfers affecting the 2016 fishing year

Presentations

- Review of progress by M. Ware

9. Discuss New England Fishery Observer Program (4:30 – 5:00 p.m.)
Background • The New England Fishery Observer Program increased coverage on lobster boats in 2015 as required by the Standardized Bycatch Reduction Method • There is concern that NOAA's data collection efforts duplicate state efforts and do not sample a representative group of fishermen
Presentations • Provide update on NEFOP efforts and state involvement

10. Other Business/Adjourn

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 6, 2015

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

Dear Bob:

I would like to inform you of actions taken by the New England Fishery Management Council at its June, 2015 meeting. This meeting saw the culmination of a lengthy process to improve the measures designed minimize, to the extent practicable, the adverse effects of fishing on Essential Fish Habitat. After taking final action at this meeting, the Council will submit Omnibus Habitat Amendment 2 (OHA2) to the National Marine Fisheries Service for review and approval. Our best estimate is that approved measures will be implemented in early summer, 2016.

ASMFC provided several comment letters on this action related to options for Closed Area II (CAII) on Georges Bank. The concerns were that options to open CAII might lead to adverse effects on the lobster fishery, either through gear conflicts between lobster and mobile gear fishermen or through mobile gear damage to the lobster resource. While trawl and lobster fishermen were able to reach an informal agreement to address these concerns, a similar agreement between the lobster and scallop fisheries proved elusive.

At the June Council meeting, the Council adopted an alternative that would allow mobile gear fishing in much of the area that is currently known as CAII (see attached figure). The Council also adopted a prohibition on scallop dredge fishing in this area, north of 41-30 N, during the period June 15 through October 31. This restriction was adopted to reduce the possible effects of mobile gear fishing on the lobster fishery. This measure was adopted to address the concerns raised by ASMFC.

I note that the ASMFC Lobster Board agenda for its August 2015 meeting includes consideration of an addendum to the lobster plan of a ban on mobile gear in CAII for the same dates as those adopted by the Council in OHA2. Given the Council's action and the agreement between the trawl and lobster fisheries, this would seem unnecessary. Should the Lobster Board pursue this addendum, I ask that the Commission formally consult with the Council, as required by Atlantic Coastal Fisheries Cooperative Management Act (ACFCMA), before adopting measures for fisheries that occur in the exclusive economic zone. This will help prevent any confusion caused by different approaches between our two management bodies, and may prevent the need for the National Marine Fisheries Service to supersede measures passed by the Commission with those adopted by the Council, as described in the ACFCMA.

The lengthy OHA2 development process reflects the Council's extensive efforts to balance competing priorities and interests. I believe that the adopted CAII measures reflect a balance between the needs of Essential Fish Habitat, mobile gear fishermen, and the lobster fishery. Please let me know if you have any questions.

Sincerely,

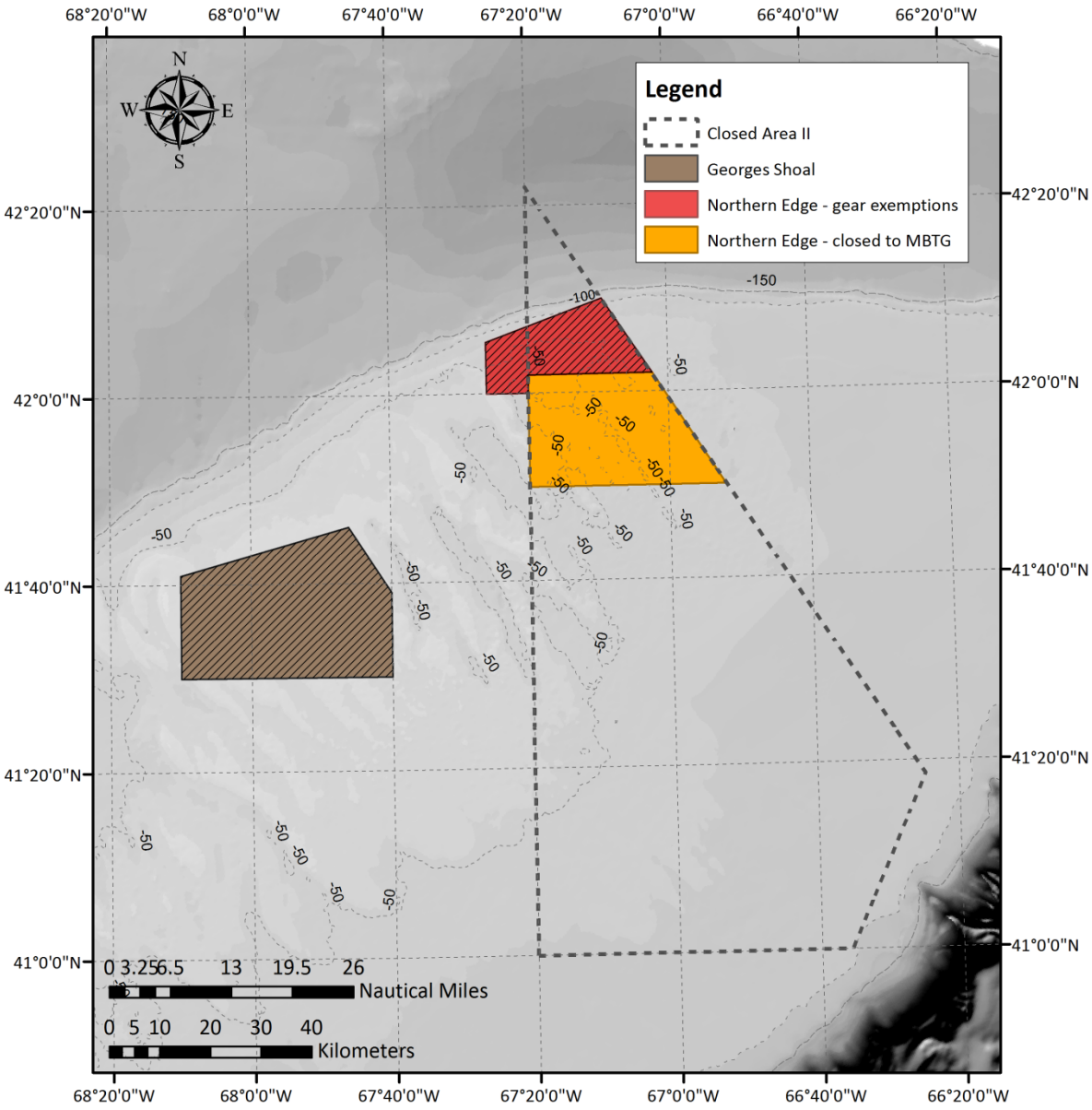
Thomas A. Nies

Thomas A. Nies
Executive Director

Attachment: Georges Bank Habitat Management Area
cc: Mr. John Bullard

Omnibus Essential Fish Habitat Amendment 2: Final Georges Bank habitat areas as of June 2015 New England Fishery Management Council meeting.

-- Gear exemption areas hatched. In Georges Shoal area, clam dredges exempt for one year. On Northern Edge (red area), scallop access fishing exempt, bottom trawling for groundfish exempt west of 67° 20' W.
-- Orange area closed to mobile bottom-tending gear.
-- Existing CAII mortality closure shown for reference. This area will be retained as a spawning closure between Feb 1 - April 15, and closed to scallop dredges June 15 - October 31.
-- Depth contours in meters.



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July 14, 2015

VIA EMAIL

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

Re: ASMFC Summer Meeting
American Lobster Management Board's Agenda Item to Discuss CAII

Dear Bob:

We represent the Fisheries Survival Fund ("FSF"). FSF's participants include over 250 full-time active Atlantic scallop limited access permit holders. We are writing this letter to express strong opposition to the Atlantic States Marine Fisheries Commission ("Commission") American Lobster Management Board's ("Lobster Board") proposed August 4 agenda item to discuss initiating an addendum to the American Lobster ISFMP to prohibit all mobile gear in Closed Area II ("CAII") from June 15- October 31. The measure appears largely directed at the federally-managed scallop fishery occurring fully in the exclusive economic zone.

In summary, FSF appreciates and supports the July 6, 2015, letter from New England Fishery Management Council Executive Director Thomas A. Nies to the Commission relating to this subject matter. Mr. Nies' concise—and remarkably diplomatic—letter explaining both the NEFMC's recent actions in response to the Commission's stated concerns and the respective allocations of NEFMC and Commission jurisdiction should fully resolve the matter. FSF will provide more comment if the Commission elects to proceed with such an utterly ill-advised action.

* * * * *

We appreciate the opportunity to provide these comments and would request that this letter be distributed to all Commission members and be included in the materials for the August 4, 2015 meeting. Please do not hesitate to contact us if you have any questions or need additional information.

Sincerely,

David E. Frulla
Andrew E. Minkiewicz
Anne E. Hawkins
Travis G. Cushman

Counsel for Fisheries Survival Fund

Draft Document for Public comment.

Fishery Management Report

of the

Atlantic States Marine Fisheries Commission

DRAFT Interstate Fishery Management Plan for Jonah Crab

May 2015

This draft document was approved by Management Board for public comment to solicit input on the issues contained in this document.

Draft Document for Public comment.

Interstate Fishery Management Plan for Jonah Crab

Prepared by
Atlantic States Marine Fisheries Commission
Jonah Crab Plan Development Team

Plan Development Team Members:
Toni Kerns, Atlantic States Marine Fisheries Commission
Jeff Mercer, Rhode Island Department of Environmental Management
Craig Weedon, Maryland Department of Natural Resources
Kathleen Reardon, Maine Department of Marine Resources
Jason Berthiaume, NOAA Fisheries
Bob Glenn, Massachusetts Division of Marine Fisheries

This Plan was prepared under the guidance of the Atlantic States Marine Fisheries Commission's American Lobster Management Board, Chaired by Dan McKiernan of Massachusetts. Technical and advisory assistance was provided by the Jonah Crab Technical Committee, the Jonah Crab Stock Assessment Subcommittee, the Law Enforcement Committee, and the Jonah Crab Advisory Panel.

This is a report of the Atlantic States Marine Fisheries Commission pursuant to U.S. Department of Commerce, National Oceanic and Atmospheric Administration Award No..

AMENDMENT PROCESS AND TIMELINE

In May 2014, the American Lobster Management Board initiated the development of an interstate fishery management plan for Jonah crab. This followed a report by the Jonah Crab Work Group to the Board on the status of biological and fisheries data, as well as policy recommendations. The diagram below depicts the plan development process.

May 2014	American Lobster Board Initiates FMP
	↓
August 2014	American Lobster Board approves Draft Public Information Document for Public Comment
	↓
September 2014	Public Hearings held on Public Information Document
	↓
October 2014	American Lobster Board tasks Plan Development Team with drafting Interstate FMP
	↓
May 2015	American Lobster Board approves FMP for Public Comment
	↓
May-July 2015	Public hearing held on Draft FMP
	↓
August 2015	American Lobster Board selects options and recommends final approval for FMP; Commission approves FMP

ACKNOWLEDGMENTS

The Jonah Crab Interstate Fishery Management Plan was developed under the supervision of the Atlantic States Marine Fisheries Commission's American Lobster Management Board, chaired by Dan McKiernan of Massachusetts. Members of the Plan Development Team (PDT) included: Toni Kerns (ASMFC); Craig Weedon (MD DNR); Kathleen Reardon (ME DMR); Bob Glenn (MA DMF); Jeff Mercer (RI FW) and Jason Berthiaume (NOAA Fisheries). Additional support included Derek Perry (MA DMF), Allison Murphy (NOAA Fisheries), David Borden (Board Vice Chair), Marin Hawk (ASMFC), and Tina Berger (ASMFC).

The PDT would also like to thank the species' Plan Review Teams, the Jonah Crab Advisory Panel, and the Law Enforcement Committee for their contributions.

Funding for this effort was provided to the Commission by the U.S. Department of Commerce, National Oceanic and Atmospheric Administration Award No.

TABLE OF CONTENTS

1. INTRODUCTION

1.1. Background Information

In May 2014, the American Lobster Management Board initiated the development of a Fishery Management Plan (FMP) for Jonah Crab, *Cancer borealis*, throughout the species range within United States waters. The development of this FMP was based on the American Lobster Board's (Board) concern for potential impacts to the status of the Jonah crab resource with recent and rapid increases in landings. Information on Jonah crab was presented to the Board by the Jonah Crab Fishery Improvement Project (FIP), a multi-stakeholder effort to improve a fishery's performance. The Jonah Crab FIP was initiated by Delhaize America (a grocery retailer) when the company found Jonah crab did not meet the criteria for sustainable harvest which they require for all seafood sold in their stores.

The FIP conducted a pre-assessment benchmark and organized a working group to evaluate potential threats to the Jonah crab resource and fishery as well as develop potential management measures to address these threats. The working group was comprised of members of various lobster industry associations, state agencies, academia, fishermen, and seafood retailers. Specific concerns of the FIP included increased targeted fishing pressure on Jonah crab, likely due to a fast growing market demand, and the long term health of the fishery. The FIP made several recommendations for management to the Commission including a minimum size, prohibiting female crab harvest, and reporting requirements.

The Board approved the Public Information Document for public comment in August 2014. Public comment was received and hearings were held during the fall of 2014. The Board tasked the Plan Development Team (PDT) with developing a Draft FMP for Jonah Crab in October 2014.

1.1.1. Statement of the Problem

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 crab. The majority of crab are harvested by lobster fishermen using lobster traps. Since the early 2000s, landings have increased 6.48 fold. With the increase in demand for crab, a mixed crustacean fishery has emerged that can target both lobster or crab or both at different times of year based on slight legal modifications to the gear and small shifts in the areas in which traps are fished. 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.

The status of the SNE lobster fishery is poor, as part of the rebuilding plan the 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 implemented lobster rulemaking base 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 by vertical lines two measures have been implemented (1) minimum number of traps in a trawl and (2) season closures. Increasing the number of vertical lines would have a negative impact on the goals and objectives of the Large Whale Take Reduction Plan. Because the SNE lobster fishery had recently reduce the number of vertical lines through trap reductions, SNE did not have to implement a season closure or traps per trawl reduction, where GOM fishery has a 3 month closure. Managers do not want to negatively impact the number of vertical lines in SNE with potential crab traps.

A complete picture of the Jonah crab fishery in federal and state 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 PDT identified the following issues:

- The crab resource is not directly regulated in federal waters but is rather regulated incidentally by the American lobster regulations. There are no crab specific regulations in federal waters or permit/license requirements.
- Landings have rapidly increased in the past 10 years and, without new controls, effort could increase in an unregulated manor
- With continued unregulated harvest of Jonah crab, the long-term availability of this resource for harvest could be compromised.
- There are no minimum size protections for Jonah crab, nor are there regulations to protect spawning biomass, including restrictions on the harvest of females or egg carrying females.
- Supermarkets and other major buyers are positioning to discontinue selling processed and whole Jonah crab unless it is managed sustainably which would impact the ex-vessel price.
- A lack of universal permit and reporting requirements makes it difficult to characterize catch and effort to the full extent in order to manage the fishery
- A Jonah crab trap is not distinguishable from a lobster trap 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 specifically regulated, there may be implications with the lobster fishery and marine mammal interactions compromising the effectiveness of the Large Whale Take Reduction and Lobster plans.

1.1.2. Benefits of Implementation

1.1.2.1. Social and Economic Benefits

Sustainable management practices and policies for a popular species such as Jonah crab can increase economic benefits and provide social stability in the fishing community while ensuring a fishery for future generations. Greater cooperation and uniform management measures among the states increase the likelihood that the conservation efforts of one state or group will not be undermined.

Increased targeted fishing pressure on Jonah crab, likely due to fast growing market demand, increase in effort controls in the lobster fishery, and the poor condition of the SNE lobster stock,

has the potential to compromise the long-term health of the fishery. Without a comprehensive management plan and stock assessment process, harvest of Jonah crab could put the sustainability of the resource at risk, ultimately resulting in lost markets and revenue. A lack of comprehensive management plan is particularly impactful to fishermen who rely on the harvest of Jonah crab as part of their livelihoods and to the processors and dealers who have invested in processing technology and building markets for Jonah crab.

1.1.2.2. Ecological Benefits

The apex trophic level of marine ecosystems is commonly targeted by fisheries because it is usually comprised of animals that represent the highest food and commercial value. As apex predators become depleted in areas of high fishing pressure, the fishery target will shift to species of lower trophic levels, a concept known as "fishing down marine food webs." In regions where top trophic levels have been heavily harvested, Jonah crab is becoming a more desirable fishery target. Concurrently, in these areas the Jonah crab species has begun to take on the role of apex predator (Leland 2002). Where natural apex predators have become rare, Jonah crab is now primarily responsible for controlling benthic invertebrates.

Green sea urchins, a prey species of the Jonah crab, in high densities are responsible for converting kelp forests into urchin barrens. The Jonah crab and the green urchin co-occur across a wide geographic range, particularly in the Gulf of Maine. Jonah crab have a pronounced influence over the structure of benthic habitat through suppression of these herbivorous prey species. McKay and Heck Jr. (2008) found that green sea urchins grazing rates on kelp decreased by nearly 80% in the presence of the echinivorous Jonah crab, suggesting that simply the presence of Jonah crab has the potential to act as a firm control on urchin behavior. This control imposed by their presence, in addition to the consumption of urchins by Jonah crab, could initiate a trophic cascade which would positively affect the conservation of kelp forests. These forests serve as critical habitat for many fish and invertebrates.

Jonah crab are omnivorous and consume a variety of species, including snails, mussels, urchins, algae, and arthropods, among other benthic invertebrates. American lobster (Ojeda and Dearborn 1991) and fish are predators of Jonah crab, particularly at smaller sizes. There have also been several studies documenting relatively high rates of predation on Jonah crab by gulls, primarily during northern latitude summers when Jonah crab move into subtidal habitats (Good 1992; Krediet and Donahue 2009).

1.1.3. Species Life History

Jonah crab are distributed in the waters of the Northwest Atlantic Ocean primarily from Newfoundland, Canada to Florida, USA though a few specimens have been reported as far south as Bermuda (Haefner 1977; Drew 2011). Jonah crab are often confused with rock crab (*C. irroratus*) although the species are biologically and taxonomically distinct (Figure 1). This confusion is largely due to overlapping habitat and numerous regional common names attributed to both species. The two species can be distinguished in a few ways. First, rock crab have smooth edged teeth on the edge of the carapace, whereas Jonah crabs have rough edged teeth on their

carapace edge. Second, rock crab have purplish-brown spots on the carapace while Jonah crab have yellow spots. Lastly, Jonah crabs can be slightly larger than rock crabs.

The life cycle of Jonah crab is poorly described, and what is known is largely compiled from a patchwork of studies that have both targeted and incidentally documented the species. Female crab (and likely some males) are documented moving into the nearshore and even subtidal habitats during the late spring and summer (Krouse 1980). Motivations for this inshore migration are unknown, but maturation, spawning, and molting have all been postulated. It is also widely accepted these migrating crab move back offshore in the fall and winter, though this phenomenon has not been quantified. Due to the lack of a widespread and well-developed aging method for crustaceans, age and growth of Jonah crab is poorly described. The largest recorded Jonah crab was a male caught in Canada and measured 222 mm (8.7"); females generally do not exceed 150 mm (5.9") (Robichaud et al. 2000). Sea sampling of commercial fishing gear conducted in Maine on 7,131 crabs (Table 2b; Reardon, 2003) and Southern New England on 8,392 crabs (Table 2c; CFRF, unpublished data) indicate similar size distributions with only 2-4% of females and 69-71% of males captured greater than 5"

There is a lack of Jonah crab maturity data in U.S. waters. What little is known comes from unpublished documents and published studies with low sample sizes. Wenner et al (1992) determined that 46 of 66 female Jonah crabs inspected from the continental slope off the Southeastern U.S. had mature ovaries. The carapace width of mature female crabs ranged from 89 mm (3.5") to 132 mm (5.2"), with a mean of 105 mm (4.1"). In an unpublished master's thesis, Carpenter (1978) found the size at maturity to be between 90 and 100 mm (3.5 and 3.9") for males, and 85 mm (3.4") for females in Norfolk Canyon, off the mouth of Chesapeake Bay. An unpublished study conducted by Ordzie and Satchwill (1980) on 154 females and 94 male crabs collected from Southern New England waters used gonad color, presence of sperm in spermathecae, and width of sixth abdominal segment as indicators of sexual maturity in females and gonad color and presence of spermatozoids in spermatophores as indicators of maturity in males. Examination of the data suggests that both sexes reach near 100% maturity by 90mm (3.5").

Moriyasu et al. (2002) reported 50% of male Jonah crabs had mature gonads at 68.5 mm (2.7") and reached morphometric maturity at 128 mm (5") on the Scotian Shelf. Morphometric maturity is determined by a change in allometric relationships, in the case of Jonah crabs, the relationship between chela height and width. Moriyasu et al. (2002) cautioned that gonads of most brachyuran crabs can be classified as mature before they reach functional maturity, which should be considered when establishing limits for commercial harvest. Functional maturity is determined by the presence of mating scars on the claws of male crabs, eggs on a female, or other evidence of successful mating. Females as small as 94 mm (3.7") have been recorded as carrying eggs by commercial fishermen participating in the Lobster/Jonah Crab Research Fleet Pilot Program administered through the Commercial Fisheries Research Foundation.

Like other Cancer species, Jonah crab consume a variety of prey including snails, arthropods, algae, mussels, and polychaetes (Donahue et al. 2009). Donahue et al. (2009) found that over 50% of stomach contents of wild-sampled crabs were blue mussels, (*Mytilus edulis*) along the

coast of Maine. Jonah crabs found in the soft sediments of the New York Bight commonly ate polychaetes and mollusks (Stehlik 1993).

1.1.4. Stock Assessment Summary

The status of the Jonah crab resource is relatively unknown. There is no range wide stock assessment.

1.1.5. Abundance and Present Condition

Massachusetts, Rhode Island, Maine, and New Hampshire conduct inshore state water trawl surveys which are primarily focused on finfish and encounter Jonah crab infrequently, therefore providing only minimal data. NOAA Fisheries conducts a trawl survey in federal waters which collects data on Jonah crab abundance and distribution, distinguished by species; however, this data has not yet been fully analyzed. Inferred high amounts of undocumented catch, along with spatial and temporal inconsistencies in reported landings make abundance difficult to estimate.

The Massachusetts Division of Marine Fisheries has conducted seasonal spring (May) and fall (September) bottom trawl surveys in state waters since 1978. Information on the number, weight, size, gender and distribution are collected. North of Cape Cod Jonah crabs are frequently caught in the survey; however, south of Cape Cod Jonah crabs are infrequently caught as the crabs prefer deeper, cooler waters in this area and the survey is restricted to shallower areas. Survey trends for males and females in both the spring and fall have been declining in recent years (Figure 2).

The Northeast Fisheries Science Center conducts a spring (generally March to May) and fall survey (generally conducted in September and October). Jonah crab stratified mean number per tow are given by region (Georges Bank, Gulf of Maine, and Southern New England) in Figure 3. The spring 2014 survey showed record high abundance in the Georges Bank and Gulf of Maine regions, the 2014 data points are extreme positive outliers from the rest of the time series. The spring survey in Southern New England has been fairly stable, hovering near the time-series median. The fall survey shows a declining trend in Georges Bank since reaching record high abundance in the early 2000's. The Gulf of Maine has been fairly stable in the fall since 2000, staying generally above the time-series median. The fall survey has shown a recent increase in abundance in Southern New England.

1.2. Description of the Fishery

1.2.1. Commercial Fishery

The commercial fishery is described using data from ACCSP. These data are limited to dealer reports. Some aspects of these data may not represent a full picture of the fishery due to confidential data, lack of reporting requires by dealers, or mis-classification of rock and Jonah crab.

The value of Jonah crab has increased recently, resulting in higher landings. Landings fluctuated between approximately 2 and 3 million pounds throughout the 1990's (Table 1). By 2005,

landings increased to over 7 million pounds and then to over 17 million pounds in 2014. Landings in 2014 predominately came from Massachusetts (70.05%), followed by Rhode Island (24.23%), New Hampshire and Maine (4.33%). Connecticut, New Jersey, and Maryland accounted for a combined 1.38% of landings.

Massachusetts and Rhode Island combine for 94.29% of all U.S. Jonah crab landings. Statistical area 537 accounts for 71.5% of all crabs landed in these two states, followed by area 526 (10.5%) and 525 (9.9%) (Figure 4). The monthly landing trends for Massachusetts and Rhode Island are given in figures 5 and 6. There has been a change in the timing of peak landings in Massachusetts. From 2005 through 2011 the lowest landings occurred from August through December. Since 2012, landings have peaked in September and October. Rhode Island has not had an obvious change in the seasonality of their landings and continues to land most of their Jonah crab from December through March.

The Massachusetts Division of Marine Fisheries began a Jonah crab port sampling program in late 2013 and has since collected data on 6,464 crabs (Table 2). Carapace width of crabs ranged from 82 mm (3.2“) to 171 mm (6.7“), with an average size of 143 mm (5.6“). Only 0.2% of observed crabs were females and only one had eggs.

Jonah crab are taken in pots and traps and have long been taken as bycatch or more recently as a secondary target in the lobster fishery. Since 1990 on average 95% of the landings have come from pots and traps (Table 3, Figure 7). On average, less than 1% of the catch are identified to come from dredges and trawls. Since 1990 there were only two years where more than 2% of the catch was from trawls and dredges, 2001(2.6%) and 2009 (2.12%). In 2013, less than 1% of the catch was from trawls and dredges.

In the early 1990s ex-vessel values were approximately $1 to $1.5 million dollars (Table 4). Ex-vessel value increased in 2005 to $3.5 million. From 2007 to 2011 ex-vessel value fluctuated from $4.5 to $5.6 million dollars, and reached an estimated $12.7 million in 2013.

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 bycatch 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. The 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.

1.2.2. Recreational Fishery

The magnitude of recreational landings is unknown, but are expected to be minimal.

There is little information on the Jonah crab fishery available due to the difficulty distinguishing Jonah crab from other crabs.

1.2.3. Subsistence Fishery

No known subsistence fishery exists for Jonah crab.

1.2.4. Non-Consumptive Factors

No non-consumptive factors were identified to Jonah crab.

1.2.5. Interactions with Other Fisheries, Species, or Users

Jonah crab are most often associated with American lobster fishing, due to overlapping range, shared habitat, and recruitment to similar gears. In some states (e.g., Maine), commercial lobster licenses are sold together with a crab license that most often is applied to Jonah crab (Table 5). Several Canadian Lobster Fishing Areas (LFAs) and the state of Maine have experimented with specific Jonah crab fishing permits in an effort to evaluate the development of a dedicated Jonah crab fishery (in some cases with trap modifications that greatly reduce any lobster bycatch and target Jonah crab). However, these efforts have largely been abandoned and Jonah crab harvest has returned to its close harvest relationship with American lobster.

1.3. Habitat Considerations

1.3.1. Habitat Important to the Stocks

1.3.1.1. Description of the Habitat

Jonah crab likely have spatial and temporal variability in habitat use; some of this seasonality has been hinted at in the current literature, but the overall description of habitat use remains severely lacking in specifics. Large adult Jonah crab are most frequently caught in rocky offshore habitats. It is widely thought that during spring in northern latitudes Jonah crab migrate to shallower waters where they remain until returning to deeper water in the fall and winter. This shallow-water residence period has been studied primarily in the context of predation by gulls (Krediet and Donahue 2009) and in documentation of microhabitat (Jeffries 1966; Krouse 1980). Both Jeffries and Krouse suggest Jonah crab are associated with rockier, deeper sites with cover/crevices, but Wenner et al. (1992) used a submersible and found the crabs to be common in softer sediments along the continental slope. Most studies that report optimal temperature for Jonah crab are consistent in reporting a range of roughly 8–12°C.

1.3.1.2. Identification and Distribution of Habitat and Habitat Areas of Particular Concern

Habitat Areas of Particular Concern (HAPCs) are defined by the Atlantic States Marine Fisheries Commission as areas within the species habitat which satisfy one or more of the following criteria: (1) provide important ecological function, (2) are sensitive to human-induced environmental degradation, (3) are susceptible to coastal development activities, or (4) are considered to be rarer than other habitat types.

While overall habitat descriptions are incomplete, spawning locations in particular are not known, which might be of particular importance or concern toward biology and management.

1.3.1.3. Present Condition of Habitats and Habitat Areas of Particular Concern

Unknown.

1.4. Impacts of the Fishery Management Program

1.4.1. Biological and Environmental Impacts

Direct biological and environmental impacts of a coastwise management program on Jonah crab are largely unknown based on the limited initial information on the species and any potential stocks. Studies from maritime Canadian waters suggest little fishing effort/harvest was enough to remove virgin biomass and if the commercial fishery continued harvest levels would need to be lowered. Without any population assessment and inconsistent catch rate data from a species with unknown migration patterns, it is impossible to know what the immediate biological impacts of management will be.

1.4.2. Social Impacts

Regulatory changes in fisheries have social impacts. When regulations are created or made more restrictive on a fishery, e.g. area closures, or season closures, ultimately the dynamic of the fishing regimen will change. For instance, areas once fished by locals and tourists alike may close, causing a shift in fishing location and thus a shift in lodging, fuel purchases, food consumption at local restaurants, etc., away from that economy. Regulatory changes can have positive social impacts, though often these impacts are seen in the future and not immediately. Regulations are put in place so a fishery may continue to be sustainable or recover to a sustainable level. This in turn increases fishing opportunities into the future and may bring people into these local areas, benefitting the economy.

The development of an FMP for Jonah crab will address some issues that have been raised concerning the sustainability of the resource, which in turn will impact the marketability of Jonah crab in the future. Jonah crab was evaluated in June 2014 as a food source by the Monterey Bay Aquarium Seafood Watch program, a program initiated to recommend responsible and sustainable seafood options to consumers. The Seafood Watch Program currently lists Jonah crab as a seafood to avoid for the following reasons; A) little is known about species abundance and stock status, and B) bycatch risk exists for endangered marine mammals. In addition, Supermarkets and other major buyers are positioning to discontinue selling processed and whole Jonah crab unless it is managed sustainably which could impact the ex-vessel price.

Implementation and regulation of fishing strategies that are designed to reduce bycatch will address the risk to marine mammals. Periodic stock assessments and regulated reporting of harvest will develop understanding of stock status. The development of an FMP will elucidate the conditions surrounding Jonah crab harvest and develop knowledge to responsibly utilize the species.

There is very little information on fishermen, fishing-dependent businesses, or communities that depend on the Jonah crab fisheries. In order to understand the impact that any new rules and regulations may have on participants in the any fishery, in-depth community profiles need to be developed that will aid in the description of communities, both present and historical, involved in a fishery. Until more research is completed, and in-depth community profiles are developed for sample communities, it is not possible to fully describe the possible impacts of any change in fishing regulations on any fishery.

1.4.2.1. Recreational Fishery

Establishment of the Jonah Crab FMP would not be expected to significantly impact the social aspects of the recreational sector at this time. Since landings are expected to be insignificant, any social impacts are expected to be minor.

1.4.2.2. Commercial Fishery

In the past, several Canadian Lobster Fishing Areas and the state of Maine all experimented with directed fishing for Jonah crab. Although interest and effort were initially high, ongoing issues with Jonah crab value, handling, and gear expenses (among other reasons) ultimately led to substantial declines in participation. The Canadian Jonah crab fisheries took place over a long enough time period to document the decline, whereas the work in Maine was only documented over a few years. The work in Maine included a socio-economic survey highlighting the reasons fishermen did not invest more effort into targeting Jonah crab. It is also worth noting from Reardon's (2006) socio-economic survey during the EFP, that 67% of active permit holders (n=35) were in favor of some type of Jonah crab management. Non-active permit holders (n=65) were much less enthusiastic about the potential for Jonah crab management, at < 20% support.

1.4.2.3. Subsistence Fishery

No subsistence fisheries were identified for Jonah crab.

1.4.2.4. Non-consumptive Factors

No non-consumptive factors were identified that were of significance to the Jonah crab resource.

1.4.3. Economic Impacts

1.4.3.1. Recreational Fishery

The economic impact of the recreational fishery is unknown due to the lack of information concerning the magnitude of harvest in the Jonah crab fishery. However, because landings are expected to be insignificant, any economic impacts are expected to be minor.

1.4.3.2. Commercial Fishery

Jonah crab claws are relatively large and can be an inexpensive substitute for stone crab claws. With only a handful of processors specializing in this fishery, the quality of Jonah crabmeat is very consistent. While the ex-vessel prices for other popular crabs such as Dungeness have soared, fishermen have seen their boat prices for Jonah crab rise only modestly from about $0.50 per pound to $0.70 per pound from 2009 to 2012 (ACCSP Data Warehouse, September 2013). That's largely because there is only a small live market for Jonah crab and only a handful of plants process Jonah crabmeat and claws, limiting price competition for the catch. Prices of Jonah crab products, on the other hand, have increased as more buyers look for an alternative to much higher priced blue and Dungeness crabmeat. With Dungeness meat now selling for $18 per pound, the price of Jonah crabmeat is varies from $13-$15 per pound.

Sustainable management practices will maximize economic benefits to affected communities and ensure that these sources of income will remain stable far into the future. Uniformity among state management measures will afford fair and equitable use by fishermen across state borders, and will ensure that conservation measures are soundly established by all parties for maximal effect.

1.4.3.3. Subsistence Fishery

No subsistence factors were identified that were significant to the Jonah crab resource.

1.4.3.4. Non-consumptive Factors

No non-consumptive factors were identified that were of significance to the Jonah crab resource.

1.4.4. Other Resource Management Efforts

1.4.4.1. Artificial Reef Development/Management

No active development or management is occurring.

1.4.4.2. Bycatch

Bycatch is very minimal but can include bottom dwelling finfish and invertebrate species which can be entrapped with Jonah crab in lobsters pots both inshore and offshore fisheries.

1.4.5. Law Enforcement Assessment Document

The Commission's Law Enforcement Committee has developed a guidelines document for evaluation of potential management measures in Commission FMPs. This document will be used to provide recommendations to the American Lobster Board concerning the enforceability of proposed measures.

2. GOALS AND OBJECTIVES

2.1. History and Purpose of the Plan

2.1.1. History of Prior Management Actions

Jonah crab is managed differently from state to state, and management is absent in federal waters. Table 5 provides a summary of regulations in state waters for Jonah crab. Regulations in state waters can include license requirements, seasons, minimum sizes, trap limits, harvest limits, and restrictions to protect spawning females.

2.1.2. Purpose and Need for Action

As described in the statement of the problem, harvest has increased 6.48 fold since 2000 as the market for Jonah crab has increased (Table 1 and 4). As a result, the species has experienced increased fishing pressure to keep up with the demand of the market and a mixed use fishery has emerged between lobster and crab. 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.

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).

The status of the Jonah crab fishery in federal or state waters is relatively unknown. In the absence of a comprehensive management plan and stock assessment, harvest of Jonah crab may compromise the sustainability of the resource. The following are main reasons why and how an interstate fishery management plan with complementary federal regulations would benefit the fishery:

1. There is sporadic information gathered on the species, making stock assessments difficult.
2. There is lack of consistent state-to-state as well as state to federal regulations and goals;
3. An interstate FMP establishes a framework to address future concerns or changes in the fishery or population.

4. An interstate FMP establishes a framework to address future concerns or changes in other species regulations, e.g. Lobster FMP or Large Whale Take Reduction Plan

2.2. Goals

To support and promote the development and implementation, on a continual basis, of a unified coastal management program for Jonah crab, which is designed to promote conservation, to reduce the possibility of recruitment failure, and to allow full utilization of the resource by the United States industry. The management program should be sensitive to the need to minimize social, cultural and economic dislocation.

2.3. Objectives

1) Protect, increase or maintain, as appropriate, the brood stock abundance at levels which would minimize risk of stock depletion and recruitment failure
2) Optimize yield from the fishery while maintaining harvest at a sustainable level
3) Implement uniform collection, analysis, and dissemination of biological and economic information; improve understanding of the status of the stock and the economics of harvest
4) Promote economic efficiency in harvesting and use of the resource
5) Ensure that changes in geographic exploitation patterns do not undermine success of the management program
6) To successfully manage Jonah crab in a manner that is compatible with ASMFC's management of American lobster and in harmony with state and federal management of other trust resources.

2.4. Specification of Management Unit

The management unit for Jonah crab is the entire Northwest Atlantic Ocean and its adjacent inshore waters where Jonah crabs are found, from Maine through Virginia. The FMP is written to provide for the management of Jonah crab throughout their range. The FMP is designed to specify a uniform program regardless of lines that separate political jurisdictions, to the extent possible.

2.4.1. Management Areas

The management area shall be the entire Atlantic coast distribution of the resource from Maine through Virginia.

2.5. Definition of Overfishing

As no coastwide stock assessment has yet to be performed, there is no definition of overfishing for Jonah crab. A definition of overfishing along with absolute values may be established, following a stock assessment, through adaptive management.

2.6. Stock Rebuilding Program

The status of the Jonah crab population is unknown, and therefore a specific rebuilding program and schedule cannot be determined. Once a stock assessment is conducted a rebuilding program may be established, if necessary, through adaptive management.

3. MONITORING PROGRAM SPECIFICATIONS/ELEMENTS

Parts of this section will be updated once a technical committee has been approved and can make recommendations for monitoring programs.

The Jonah Crab Technical Committee will meet as necessary to review the stock assessment, once available, for Jonah crab and all other relevant data pertaining to stock status. The Advisory Panel will forward its report and any recommendations to the Management Board.

The Jonah Crab Advisory Panel will meet annually, or as necessary, to review state management program changes, developments in the fishery, or other changes or challenges in the fishery. The Jonah Crab Stock Assessment Subcommittee will generally meet every five years to review and update or perform a benchmark stock assessment on the Jonah crab stock. This schedule may be modified as needed to incorporate new information and consideration of the Jonah crab biology.

The Jonah Crab Plan Review Team (PRT) will annually review implementation of the management plan and any subsequent adjustments (addenda), and report to the Management Board on any compliance issues that may arise. The PRT will also prepare the annual Jonah Crab FMP Review and coordinate the annual update and prioritization of research needs (see Section 6.2).

3.1. Assessment of Annual Recruitment

Currently, no data exist on recruitment of juvenile Jonah crab. Because abundance and annual migrations are poorly documented, there is no information on spawning location or movement of early life stages of Jonah crab. Krouse (1980) reported that Jonah crab do not use inshore areas as nursery habitat, though this issue warrants further study.

3.2. Assessment of Spawning Stock Biomass

While size at maturity information for Jonah crab in the mid-Atlantic and male crab on the Scotian Shelf (Moriyasu et al. 2002) has been studied, no information exists on the size at maturity for male and female crabs where most of the U.S. Jonah crab fishery is conducted. The absence of maturity data makes it impossible to estimate spawning stock biomass and the stock's reproductive potential, which undermines our ability to set biological reference points and conduct a stock assessment.

3.3. Assessment of Fishing Mortality Target and Measurement

No assessment of fishing mortality has taken place. Exploratory Canadian Jonah crab fisheries have established TAC; however, these values were largely based on historic landings and not mortality. Reardon (2006) estimated Z (0.53–0.71) from an experimental Maine Jonah crab fishery; however, two concerns exist with this estimate. First, it was only with a small part of the Jonah crab distribution and what was taking place in select Maine waters may not be indicative of coastwise patterns of mortality. Secondly, (if accepting her model assumptions) it did not partition F and M, and thus no estimate of F can be made other than F < Z. It was noted that all estimated F values were less than Fmax in a yield per recruit analysis.

3.4. Summary of Monitoring Programs

3.4.1. Catch, Landings, and Effort Information

Landings of Jonah crab in state waters are variable in reporting. In addition to the high variability in gear restrictions, size limits, closed seasons, and other regulatory measures, it is unknown to what degree landings are recorded. Additionally, no central repository of state landings data exists from which to estimate coastwise catch or landings. Although some states require a license to recreationally fish Jonah crab, others do not and it is unlikely that any reliable reporting takes place for recreational landings.

In addition, Jonah crab are also caught as bycatch in the lobster fishery. It is necessary for states to submit this bycatch information so it can be used in future stock assessments.

Fishery-Dependent Data Collections Options

Option 1: Monthly Reporting

This options applies to harvester reporting of catch, landings and effort data. Fishermen with a federal vessel trip reporting (VTR) requirement must fill out the VTR for all trips.

The Plan Development Team recommends that the following data elements be recorded daily by fishermen harvesting Jonah crab (directed or non-directed) and reported to the states on at least a monthly basis:

1. Total number of traps hauled by NMFS statistical area
2. Total number of pounds landed by NMFS statistical area
3. Total number of days fished
4. Trap soak time

Option 2: Coastwide mandatory reporting

This option would apply to dealer and harvester reporting of catch, landings and effort data.

1. 100% mandatory dealer and X % harvester reporting.
   To determine the percentage of harvester reporting the Board would choose from the below options:
   Sub-Option 1: 100%
   Sub-Option 2: 75%
   Sub-Option 3: 50%

Sub-Option 4:10%

2. Two-ticket system to establish a check and a balance: Harvester reports trip data and catch estimates (in pounds) and dealer reports landing weights (in pounds).

a. Harvester reports include: a unique trip id (link to dealer report), vessel number, trip start date, location (NMFS stat area), traps hauled, traps set, quantity (lbs), trip length, soak time in hours and minutes, target species,

b. Dealer reports include: unique trip id (link to harvester report), species, quantity (lbs), state and port of landing, market grade and category, areas fished and hours fished, price per pound

Option 3: Coastwide mandatory reporting and fishery dependent sampling

This option would apply to dealer and harvester reporting of catch, landings and effort data and state staff to conduct port-side sampling.

1. 100% mandatory dealer and X% harvester reporting
   To determine the percentage of harvester reporting the Board would choose from the below options:
   Sub-Option 1: 100%
   Sub-Option 2: 75%
   Sub-Option 3: 50%
   Sub-Option 4:10%

2. Two-ticket system to establish a check and a balance: Harvester reports trip data and catch estimates (in pounds) and dealer reports landing weights (in pounds).

a. Harvester reports include: a unique trip id (link to dealer report), vessel number, trip start date, location (NMFS stat area), traps hauled, traps set, quantity (lbs), trip length, soak time in hours and minutes, target species,

b. Dealer reports include: unique trip id (link to harvester report), species, quantity (lbs), state and port of landing, market grade and category, areas fished and hours fished price per pound

Characterization of the fishery is essential to conduct stock assessments. At minimum state and federal agencies shall conduct port/sea sampling to collect the following types of information on landings, where possible: (*The information to be collected will be recommended by the Crab TC, once formed, and updated for the type of sampling program that is conducted*).

Shell condition
Bait type
Trap type
Traps per trawl
Soak time
Vent size
Number of vents

This information would be included in annual compliance reports submitted to the Commission.

3.4.2. Biological Information

The ACCSP has set standards for how biological data should be collected and managed for commercial, recreational, and for-hire fisheries. Trained field personnel, known as port agents or field samplers, should obtain biological samples. Information should be collected through direct observation or through interviews with fishermen. Detailed fishery statistics and/or biological samples should be collected at docks, unloading sites, and fish houses. Biological sampling includes species identification of fish and shellfish; extraction of hard parts including spines and otoliths; and tissue samples such as gonads, stomachs, and scales.

Key biological information for Jonah crab will help inform a future stock assessment of the species. Given the data poor nature of Jonah crab, the Plan Development Team recommends that the technical committee, once formed, recommend data elements for both sea and port sampling programs.

Fishery-Independent Data Collection Options

There is currently little information concerning fishery-independent data collection. A list of surveys that sample Jonah crab needs to be obtained to determine the feasibility of fishery-independent monitoring. Key information that should be obtained in fishery-independent monitoring is size distribution, sex composition (if possible) and ovigerous condition. *The Plan Development Team recommends that the technical committee, once formed, recommend data elements for fishery independent sampling programs*:

Social and Economic Data
The ACCSP collects economic information concerning Jonah crab with the reports submitted by fishermen and dealers. Since 2002, the cancer crab fishery has increased from an ex-vessel value of 2 million dollars to over 8 million dollars. This information should continue to be collected. Each state should describe the number of participants, economic impacts of the fishery and total value of landings in annual compliance reports. It is important to collect this information for future management actions to determine how a fishery management plan impacts the economics.

3.5. Stocking Program

No current stocking program for Jonah crab is currently underway.

3.6. Bycatch Reduction Program

No known bycatch reduction program exists.

3.7. Habitat Program

Studies exist highlighting the importance of the sub-tidal area (Richards and Cobb 1986; Good 1992; Donahue et al. 2009) all the way to the continental slope (Haefner 1977; Wenner et al.

1992). Unfortunately, less is known about these habitat types during specific times of the year and for different demographic groups. It is likely that certain patterns of habitat use would become clear with more data, particularly as it applies to spawning habitat and early life stage requirements. If Jonah crab study becomes a priority, habitat use should be a primary focus.

4. PROPSED MANAGEMENT PROGRAM IMPLEMENTATION

4.1. Commercial Fisheries Management Measures

Issue 1: Permits
If left open access, a crab only permit will have the potential to increase the number of traps in both state and federal waters. A limited access crab only permit, will constrain proliferation in traps fished attributable to non-lobster trap fishing.

Option 1: ***Status Quo***. No new permit requirements are established by this plan but states/agencies must maintain their current permit requirements for lobsters and crabs. If this option is selected, crab fishermen in federal waters would be required to possess a lobster license and lobster tags or, in the absences of a lobster license and lobster tags, an individual would be allowed to fish for crabs without a permit and set an unlimited number of traps. Any individual fishing in federal waters would also be required to adhere to the state of landing permit requirements.

Option 2: ***Discretionary state permitting with recommendations for new federal permitting***. Permit requirements may be instituted at the discretion of each state, for fishing or landing crabs, and would not be standardized; however, it is recommended that NOAA Fisheries require a new federal permit to fish for and retain Jonah crabs taken from federal waters by any gear.

Option 3: ***New crab license to participate in either a State or Federal Jonah crab fishery.*** State and Federal agencies would issue a new crab-only permit which would allow the participant to fish in State and/or Federal waters. Permits would be open access and not limit the participants in the number of traps that can be set. Note: If this option were approved, the Board may consider future crab trap specifications (e.g. trap size, vents, trap limits, trap tags) through a subsequent addendum

Option 4: ***New crab license to participate in either a State or Federal Jonah crab fishery (#3 above) but trap fishery would require use of an approved trap design that minimizes lobster catch.*** State and Federal agencies would issue a new crab-only permit which would allow the participant to fish in State and or Federal waters. Permits would be open access and not limit the participants in the number of traps that can be set. These permits would be limited to the use of only traps designed to effectively target Jonah crabs, while minimizing the retention of lobster. Any such trap design would be subject to the review and approval of the Lobster PDT and Board. In the absence of an approved design, no Jonah crab trap permits shall be issued. Note: If this option were approved the Board would consider if crab trap specifications (e.g. trap size, vents, trap limits, trap tags) would be necessary through a subsequent addendum.

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).

Issue 2: Minimum size (See tables 2a-c for port and sea sampling data on Jonah crab sizes)

Option 1: No coastwide minimum size
Option 2: 4" minimum size
Option 3: 4.25" minimum size
Option 4: 4.5" minimum size
Option 5: 4.75" minimum size
Option 6: 5" minimum size
Option 7: 5.25" minimum size
Option 8: 5.5" minimum size

Issue 3: Commercial minimum size tolerance

Option 1: No tolerance for undersize crabs.
Option 2: 5% tolerance for undersize catch
Option 3: 10% tolerance for undersize catch

If a tolerance is allowed then the following procedure could be an example of how to apply tolerances. This procedure will be reviewed with the LEC for recommendations to the Board: **Minimum Size Tolerance / Jonah crab sampling procedure**: It is unlawful for any vessel or person to take, possess, have on board, land or off-load any Jonah Crabs which are less than XX inches in the longest shell diameter to the amount of more than XX% of any batch unless authorized by a permit issued by a State or Federal agency. Enforcement personnel will sample 1-5 batches of Jonah crab, depending on the volume of crabs being landed or possessed, at the discretion of the Enforcement agency personnel.

Batch means all shellfish in each separate container.
Container means any bag, box, basket, cage, or other receptacle containing loose shellfish which may be separated from the entire load or shipment.

Issue 4: Crab Part Retention

Option 1: Crabs parts, such as claws, may be retained and sold in any form
Option 2: Only whole crabs may be retained and sold

Issue 5: Prohibition on Retention of Egg-Bearing Females

Note: If the minimum size is set correctly, then this option would not be an issue. The PDT strongly discourages the use of option 1.

Option 1: No prohibition on retention of egg-bearing females.
Option 2: Egg-bearing females may not be retained.
Option 3: No females may be retained; 1% tolerance for females (total percentage of catch that is female cannot exceed 1%).

If a tolerance is allowed then the following procedure could be an example of how to apply tolerances. This procedure will be reviewed with the LEC for recommendations to the Board: **Minimum Size Tolerance / Jonah crab sampling procedure**: It is unlawful for any vessel or person to take, possess, have on board, land or off-load any Jonah Crabs which are less than XX inches in the longest shell diameter to the amount of more than XX% of any batch unless authorized by a permit issued by a State or Federal agency. Enforcement personnel will sample 1-5 batches of Jonah crab, depending on the volume of crabs being landed or possessed, at the discretion of the Enforcement agency personnel.

Issue 6: Incidental Bycatch limit for non-trap gear

Option 1: No coastwide possession limit
Option 2: 200 pounds per day up to a max of 500 pounds per trip

4.2. Recreational Fisheries Management Measures

Issue 1: Possession limits

Option 1: No coastwide possession limit
Option 2: 50 (whole crabs); or 100 claw possession limit per person

Issue 2: Prohibition on Retention of Egg-Bearing Females

Note: If the minimum size is set correctly, then this option would not be an issue. The PDT strongly discourages the use of Option 1

Option 1: No prohibition on retention of egg-bearing females.
Option 2: Egg-bearing females may not be retained.
Option 3: No females may be retained; 1% tolerance for females (total percentage of catch that is female cannot exceed 1%).

4.3. Alternative State Management Regimes

Once approved by the American Lobster Management Board, states are required to obtain prior approval from the Management Board of any changes to their management program for which a compliance requirement is in effect. Changes to non-compliance measures must be reported to the Management Board but may be implemented without prior Management Board approval. A state can request permission to implement an alternative to any mandatory compliance measure only if

that state can show to the Management Board's satisfaction that its alternative proposal will have the same conservation value as the measure contained in this amendment or any addenda prepared under Adaptive Management (***Section 4.5***). States submitting alternative proposals must demonstrate that the proposed action will not contribute to overfishing of the resource. All changes in state plans must be submitted in writing to the Board and to the Commission either as part of the annual FMP Review process/Annual Compliance Reports.

4.3.1. General Procedures

A state may submit a proposal for a change to its regulatory program or any mandatory compliance measure under the Jonah Crab Fishery Management Plan to the Commission, including a proposal for *de minimis* status. Such changes shall be submitted to the Chair of the Plan Review Team, who shall distribute the proposal to the Management Board, the Plan Review Team, the Technical Committee, the Stock Assessment Committee, and the Advisory Panel.

The Plan Review Team is responsible for gathering the comments of the Technical Committee, the Stock Assessment Committee and the Advisory Panel, and presenting these comments as soon as possible to the Management Board for decision.

The American Lobster Management Board will decide whether to approve the state proposal for an alternative management program if it determines that it is consistent with the goals and objectives of this FMP.

4.3.2. Management Program Equivalency

The Jonah Crab Technical Committee, under the direction of the Jonah Crab Plan Review Team, will review any alternative state proposals under this section and provide to the American Lobster Management Board its evaluation of the adequacy of such proposals. The PDT can also ask for reviews by the LEC or the AP.

Following the first full year of implementation of an alternate management program, the Jonah Crab Plan Review Team will have the responsibility of evaluating the effects of the program to determine if the measures were actually equivalent with the standards in the FMP or subsequent amendments or addenda. The Jonah Crab PRT will report to the Management Board on the performance of the alternate program.

4.3.3. *De minimis* Fishery Guidelines

The ASMFC Interstate Fisheries Management Program Charter defines *de minimis* as "a situation in which, under the existing condition of the stock and scope of the fishery, conservation, and enforcement actions taken by an individual state would be expected to contribute insignificantly to a coastwide conservation program required by a Fishery Management Plan or amendment" (ASMFC 2009b).

States may petition the American Lobster Management Board at any time for *de minimis* status. Once *de minimis* status is granted, designated states must submit annual reports including

commercial and recreational landings to the Management Board justifying the continuance of *de minimis* status. States must include *de minimis* requests as part of their annual compliance reports.

<u>*De Minimis* Criteria Options</u>

Option 1: Recreational and Commercial separate de minimis status

States may apply for *de minimis* status, if for the preceding three years for which data are available, their average commercial landings or recreational landings (by weight) constitute less than ***X*** percent of the average coastwide commercial or recreational landings for the same period. A state that qualifies for *de minimis* based on their commercial landings will qualify for exemptions in their commercial fishery only, and a state that qualifies for *de minimis* based on their recreational landings will qualify for exemptions in their recreational fishery only.

Sub-option 1a: X = 1%
Sub-option 1b: X = 2%
Sub-option 1c: X = 3%

Option 2: Recreational and Commercial combined de minimis status

States may apply for *de minimis* status, if for the preceding three years for which data are available, their average combined, commercial and recreational landings (by weight) constitute less than ***X*** percent of the average coastwide combined, commercial and recreational landings for the same period.

Sub-option 2a: X = 1%
Sub-option 2b: X = 2%
Sub-option 2c: X = 3%

4.3.4. *De minimis* Exemptions

States who qualify for *de minimis* are not required to implement the following requirements: Fishery independent and port/sea sampling requirements

4.4. Adaptive Management

The American Lobster Management Board may vary the requirements specified in this amendment as a part of adaptive management in order to conserve the Jonah crab resources. Specifically, the Management Board may change target fishing mortality rates and harvest specifications, or other measures designed to prevent overfishing of the stock complex or any spawning component. Such changes will be instituted to be effective on the first fishing day of the following year, but may be put in place at an alternative time when deemed necessary by the Management Board.

4.4.1. General Procedures

The Jonah Crab Plan Review Team (PRT) will monitor the status of the fisheries and the resources and report on that status to the American Lobster Management Board annually or when directed to do so by the Management Board. The PRT will consult with the Jonah Crab Technical Committee, Stock Assessment Committee, and Advisory Panel, in making such review and report.

The American Lobster Management Board will review the report of the PRT, and may consult further with the Technical Committee, Stock Assessment Committee, or Advisory Panel. The Management Board may, based on the PRT Report or on its own discretion, direct the PRT to prepare an addendum to make any changes it deems necessary. The addendum shall contain a schedule for the states to implement its provisions.

The PRT will prepare a draft addendum as directed by the Management Board, and shall distribute it to all states for review and comment. A public hearing will be held in any state that requests one. The PRT will also request comment from federal agencies and the public at large. After a 30-day review period, staff in consultation with the PDT will summarize the comments and prepare a final version of the addendum for the Management Board.

The Management Board shall review the final version of the addendum prepared by the PRT, and shall also consider the public comments received and the recommendations of the Technical Committee, Stock Assessment Committee, and Advisory Panel; and shall then decide whether to adopt or revise and, then, adopt the addendum.

Upon adoption of an addendum implementing adaptive management by the Management Board, states shall prepare plans to carry out the addendum, and submit them to the Management Board for approval according to the schedule contained in the addendum.

4.4.2. Measures Subject to Change

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

(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.

4.5. Emergency Procedures

Emergency procedures may be used by the American Lobster Management Board to require any emergency action that is not covered by or is an exception or change to any provision in the FMP. Procedures for implementation are addressed in the ASMFC Interstate Fisheries Management Program Charter, Section Six (c)(10) (ASMFC 2009b).

4.6. Management Institutions

The management institution for Jonah crab shall be subject to the provisions of the ISFMP Charter (ASMFC 2009b). The following is not intended to replace any or all of the provisions of the ISFMP Charter. All committee roles and responsibilities are included in detail in the ISFMP Charter and are only summarized here.

4.6.1. ASMFC and the ISFMP Policy Board

The ASMFC and the ISFMP Policy Board are generally responsible for the oversight and management of the Commission's fisheries management activities. The Commission must approve all fishery management plans and amendments, and must make all final determinations concerning state compliance or non-compliance. The ISFMP Policy Board reviews any non-compliance recommendations of the various Management Boards and Sections and, if it concurs, forwards them on to the Commission for action.

4.6.2. American Lobster Management Board

The American Lobster Management Board was established under the provisions of the Commission's ISFMP Charter (Section Four; ASMFC 2009b) and is generally responsible for carrying out all activities under this FMP.

The American Lobster Management Board (Management Board) establishes and oversees the activities of each species' Plan Development and Plan Review Team, Technical Committee and Stock Assessment Subcommittee, and the Advisory Panel. Among other things, the Management Board makes changes to the management program under adaptive management and approves state programs implementing the amendment and alternative state programs under ***Sections 4.4*** **and *4.5***. The Management Board reviews the status of state compliance with the management program, at least annually, and if it determines that a state is out of compliance, reports that determination to the ISFMP Policy Board under the terms of the ISFMP Charter.

4.6.3. Plan Development Team and Plan Review Team

The Plan Development Team (PDT) and Plan Review Team (PRT) for Jonah crab will be composed of a small group of scientists and/or managers whose responsibility is to provide all of the technical support necessary to carry out and document the decisions of the American Lobster Management Board. An ASMFC FMP Coordinator chairs the PDT and PRT. The PDT and PRT are directly responsible to the Management Board for providing information and documentation concerning the implementation, review, monitoring and enforcement of the species management plan. The PDT and PRT shall be comprised of personnel from state and federal agencies who have scientific and management ability and knowledge of the relevant species. The Jonah Crab PDT is responsible for preparing all documentation necessary for the development of the FMP, using the best scientific information available and the most current stock assessment information. The PDT will either disband or assume inactive status upon completion of the FMP. Alternatively, the Board may elect to retain PDT members as members of the species-specific PRT or appoint new members. The PRT will provide annual advice concerning the

implementation, review, monitoring, and enforcement of the FMP once it has been adopted by the Commission.

4.6.4. Technical Committee

The Jonah Crab Technical Committee will consist of representatives from state and/or federal agencies, Regional Fishery Management Councils, Commission, university or other specialized personnel with scientific and technical expertise and knowledge of the relevant species. The Management Board will appoint the members of a Technical Committee and may authorize additional seats as it sees fit. Its role is to act as a liaison to the individual state and federal agencies, provide information to the management process, and review and develop options concerning the management program. The Technical Committee will provide scientific and technical advice to the Management Board, PDT, and PRT in the development and monitoring of a fishery management plan or amendment.

4.6.5. Stock Assessment Subcommittee

The Jonah Crab Stock Assessment Subcommittee will be appointed and approved by the Management Board, with consultation from the Jonah Crab Technical Committee, and will consist of scientists with expertise in the assessment of the relevant population. Its role is to assess the species population and provide scientific advice concerning the implications of proposed or potential management alternatives, or to respond to other scientific questions from the Management Board, Technical Committee, PDT or PRT. The Jonah Crab Stock Assessment Subcommittee will report to the Jonah Crab Technical Committee.

4.6.6. Advisory Panel

The Jonah Crab Advisory Panel was established according to the Commission's Advisory Committee Charter. Members of the Advisory Panel are citizens who represent a cross-section of commercial and recreational fishing interests and others who are concerned about the conservation and management of Jonah crab. The Advisory Panel provides the Management Board with advice directly concerning the Commission's management program for the species.

4.6.7. Federal Agencies

4.6.7.1. Management in the Exclusive Economic Zone (EEZ)

Management of Jonah crab in the EEZ is within the jurisdiction of NOAA Fisheries under the Magnuson-Stevens Fishery Conservation and Management Act, as amended (16 U.S.C. 1801 et seq.). In the absence of a Council Fishery Management Plan for Jonah crab, management of this species is the responsibility of NOAA Fisheries as mandated by the Atlantic Coastal Fisheries Cooperative Management Act (16 U.S.C. 5105 et seq.).

4.6.7.2. Federal Agency Participation in the Management Process

The Commission has accorded the United States Fish and Wildlife Service (USFWS) and NOAA Fisheries voting status on the ISFMP Policy Board and the American Lobster Board in accordance with the Commission's ISFMP Charter. NOAA Fisheries and USFWS may also participate on the Management Board's supporting committees described in *Sections 4.7.3-4.7.6*.

4.6.7.3. Consultation with Fishery Management Councils

In carrying out the provisions of this FMP, the states, as members of the American Lobster Management Board, shall closely coordinate with the New England and Mid Atlantic Fishery Management Councils and NOAA Fisheries to cooperatively manage the Atlantic coast population of Jonah crab. In accordance with the Commission's ISFMP Charter, a representative of the New England Fishery Management Council was invited to participate as a full member of the American Lobster Management Board in April of 2015. If more than one council is interested in participating on the Board, the applicable Councils will need to identify one Executive Director/Chair to receive the invitation to participate on the board.

4.7. Recommendations to the Secretaries for Complementary Actions in Federal Jurisdictions

If options are adopted, the Board would consider which options, if any should be recommended to NOAA Fisheries for implementation in the Exclusive Economic Zone.

4.8. Cooperation with Other Management Institutions

At this time, no other management institutions have been identified that would be involved with management of Jonah crab on the Atlantic coast. Nothing in the FMP precludes the coordination of future management collaborations with other management institutions should the need arise.

5. COMPLIANCE

Full implementation of the provisions of this FMP is necessary for the management program to be equitable, efficient and effective. States are expected to implement these measures faithfully under state laws. Although the ASMFC does not have authority to directly compel state implementation of these measures, it will continually monitor the effectiveness of state implementation and determine whether states are in compliance with the provisions of this fishery management plan. This section sets forth the specific elements states must implement in order to be in compliance with this fishery management plan, and the procedures that will govern the evaluation of compliance. Additional details of the procedures are found in the ASMFC Interstate Fisheries Management Program Charter (ASMFC 2009b).

5.1. Mandatory Compliance Elements for States

A state will be determined to be out of compliance with the provisions of this fishery management plan, according to the terms of Section Seven of the ISFMP Charter if:

- Its regulatory and management programs to implement *Section 4* have not been approved by the American Lobster Management Board; or
- It fails to meet any schedule required by *Section 5.1.2*, or any addendum prepared under adaptive management (*Section 4.6*); or
- It has failed to implement a change to its program when determined necessary by the American Lobster Management Board; or
- It makes a change to its regulations required under *Section 4* or any addendum prepared under adaptive management (*Section 4.6*), without prior approval of the American Lobster Management Board.

5.1.1. Mandatory Elements of State Programs

To be considered in compliance with this fishery management plan, all state programs must include harvest controls on Jonah crab fisheries consistent with the requirements of *Sections 4.1, 4.2, 4.3*; except that a state may propose an alternative management program under *Section 4.5*, which, if approved by the American Lobster Management Board, may be implemented as an alternative regulatory requirement for compliance.

5.1.1.1. Regulatory Requirements

Each state must submit its required Jonah crab regulatory program to the Commission through the ASMFC staff for approval by the American Lobster Management Board. During the period from submission until the Board makes a decision on a state's program, a state may not adopt a less protective management program than contained in this amendment or contained in current state law. The following lists the specific compliance criteria that a state/jurisdiction must implement in order to be in compliance with this FMP:

[Will be included once final options are selected]

Once approved by the American Lobster Management Board, states are required to obtain prior approval from the Board of any changes to their management program for which a compliance requirement is in effect. Other measures must be reported to the Board but maybe implemented without prior Board approval. A state can request permission to implement an alternative to any mandatory compliance measure only if that state can show to the Board's satisfaction that its alternative proposal will have the same conservation value as the measure contained in this amendment or any addenda prepared under Adaptive Management (*Section 4.6*). States submitting alternative proposals must demonstrate that the proposed action will not contribute to overfishing of the resource. All changes in state plans must be submitted in writing to the Board and to the Commission either as part of the annual FMP Review process or the Annual Compliance reports.

5.1.1.2. Monitoring Requirements

There are requirements for additional monitoring.

5.1.1.3. Research Requirements

The Plan Development Team and Technical Committee have prioritized the research needs for Jonah crab (*Section 6.2*). Appropriate programs for meeting these needs may be implemented under Adaptive Management (*Section 4.6*) in the future.

5.1.1.4. Law Enforcement Requirements

All state programs must include law enforcement capabilities adequate for successfully implementing that state's black drum regulations. The adequacy of a state's enforcement activity will be monitored annually by reports of the ASMFC Law Enforcement Committee to Jonah Crab Plan Review Team. The first reporting period will cover the period from January 1, 20XX to December 31, 20XX.

5.1.1.5. Habitat Requirements

There are no mandatory habitat requirements in the FMP, although requirements may be added under Adaptive Management (*Section 4.6*). See *Section 4.4* for Habitat Recommendations.

5.1.2. Compliance Schedule

States must implement the FMP according to the following schedule:

Month XX, 20XX:	States must submit programs to implement the FMP for approval by the American Lobster Management Board. Programs must be implemented upon approval by the Management Board.
Month XX, 20XX:	States with approved management programs must implement FMP requirements. States may begin implementing management programs prior to this deadline if approved by the Management Board.

Reports on compliance must be submitted to the Commission by each jurisdiction annually, no later than Month XX, beginning in 20XX.

5.1.3. Compliance Reporting Content

Each state must submit an annual report concerning its Jonah crab fisheries and management program for the previous calendar year. A standard compliance report format has been prepared and adopted by the ISFMP Policy Board. States should follow this format in completing the annual compliance report.

5.2. Procedures for Determining Compliance

Detailed procedures regarding compliance determinations are contained in the ISFMP Charter, Section Seven (ASMFC 2009b). Future revisions to the ISFMP Charter may take precedence over the language contained in this FMP, specifically in regards to the roles and responsibilities of the various groups contained in this section. The following summary is not meant in any way to replace the language found in the ISFMP Charter.

In brief, all states are responsible for the full and effective implementation and enforcement of fishery management plans in areas subject to their jurisdiction. Written compliance reports as specified in the Plan (or subsequent Amendments and/or Addenda) must be submitted annually by each state with a declared interest. Compliance with the FMP will be reviewed at least annually. The American Lobster Management Board, ISFMP Policy Board or the Commission, may request that the Black Drum Plan Review Team conduct a review of plan implementation and compliance at any time.

The American Lobster Management Board will review the written findings of the PRT within 60 days of receipt of a State's compliance report. Should the Management Board recommend to the Policy Board that a state be determined to be out of compliance, a rationale for the recommended non-compliance finding will be included addressing specifically the required measures of the FMP that the state has not implemented or enforced, a statement of how failure to implement or enforce the required measures jeopardizes Jonah crab conservation, and the actions a state must take in order to comply with the FMP requirements.

The ISFMP Policy Board shall, within thirty days of receiving a recommendation of non-compliance from the American Lobster Management Board, review that recommendation of non-compliance. If it concurs in the recommendation, it shall recommend to the Commission that a state be found out of compliance.

The Commission shall consider any FMP non-compliance recommendation from the Policy Board within 30 days. Any state which is the subject of a recommendation for a non-compliance finding is given an opportunity to present written and/or oral testimony concerning whether it should be found out of compliance. If the Commission agrees with the recommendation of the Policy Board, it may determine that a state is not in compliance with the FMP, and specify the actions the state must take to come into compliance.

Any state that has been determined to be out of compliance may request that the Commission rescind its non-compliance findings, provided the state has revised its Jonah crab conservation measures or shown to the Board and/or Commission's satisfaction that actions taken by the state provide for conservation equivalency.

5.3. Recommended (Non-Mandatory) Management Measures

5.4. Analysis of Enforceability of Proposed Measures

[Law Enforcement Committee analysis]

6. MANAGEMENT AND RESEARCH NEEDS

Characterized as High (H), Medium (M), or Low (L) priority, these management and research needs will be reviewed annually as part of the Commission's FMP Review process. The annual Jonah Crab FMP Review will contain an updated list for future reference.

6.1. Stock Assessment and Population Dynamics

A coastwide stock assessment has yet to be completed for Jonah crab but is considered a high priority need. The assessment will provide much needed data on the status of the Jonah crab resource as well as contribute to recommendations for additional management needs, if any.

6.2. Research and Data Needs

Research and data needs will be identified once the Technical Committee for Jonah crab is established.

6.2.1. Biological

6.2.2. Social

6.2.3. Economic

6.2.4. Habitat

7. PROTECTED SPECIES

In the fall of 1995, Commission member states, the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS) began discussing ways to improve implementation of the Marine Mammal Protection Act (MMPA) and the Endangered Species Act (ESA) in state waters. Historically, these policies have been only minimally enforced in state waters (0-3 miles). In November 1995, the Commission, through its Interstate Fisheries Management Program (ISFMP) Policy Board, approved amendment of its ISFMP Charter (Section Six (b)(2)) so that interactions between ASMFC-managed fisheries and species protected under the MMPA, ESA, and other legislation, including the Migratory Bird Treaty Act be addressed in the Commission's fisheries management planning process. Specifically, the Commission's fishery management plans describe impacts of state fisheries on certain marine mammals and endangered species (collectively termed "protected species"), and recommend ways to minimize these impacts. The following section outlines: (1) the federal legislation which guides protection of marine mammals, sea turtles, and marine birds; (2) the protected species with potential fishery interactions; (3) the specific type(s) of fishery interactions; (4)

population status of the affected protected species; and (5) potential impacts to Atlantic coastal state and interstate fisheries.

7.1. Marine Mammal Protection Act (MMPA) Requirements

Since its passage in 1972, one of the primary goals of the MMPA has been to reduce the incidental serious injury and mortality of marine mammals permitted in the course of commercial fishing operations to insignificant levels approaching a zero mortality and serious injury rate. Under the 1994 Amendments, the MMPA requires the National Marine Fisheries Service (NMFS) to develop and implement a take reduction plan to assist in the recovery or prevent the depletion of each strategic stock that interacts with a Category I or II fishery. Specifically, a strategic stock is defined as a stock: (1) for which the level of direct human-caused mortality exceeds the potential biological removal (PBR)[1] level; (2) which is declining and is likely to be listed under the Endangered Species Act (ESA) in the foreseeable future; or (3) which is listed as a threatened or endangered species under the ESA or as a depleted species under the MMPA. Category I and II fisheries are those that have frequent or occasional incidental mortality and serious injury of marine mammals, respectively, whereas Category III fisheries have a remote likelihood of incidental mortality and serious injury of marine mammals. Each year, NMFS publishes an annual List of Fisheries which classifies commercial fisheries into one of these three categories.

Under the 1994 mandates, the MMPA also requires fishermen participating in Category I and II fisheries to register under the Marine Mammal Authorization Program (MMAP), the purpose of which is to provide an exception for commercial fishermen from the general taking prohibitions of the MMPA for non-ESA listed marine mammals. All fishermen, regardless of the category of fishery they participate in, must report all incidental injuries and mortalities caused by commercial fishing operations within 48 hours.

Section 101(a)(5)(E) of the MMPA allows for the authorization of the incidental taking of individuals from marine mammal stocks listed as threatened or endangered under the ESA in the course of commercial fishing operations if it is determined that (1) incidental mortality and serious injury will have a negligible impact on the affected species or stock; (2) a recovery plan has been developed or is being developed for such species or stock under the ESA; and (3) where required under Section 118 of the MMPA, a monitoring program has been established, vessels engaged in such fisheries are registered in accordance with Section 118 of the MMPA, and a take reduction plan has been developed or is being developed for such species or stock. Currently, there are no permits that authorize takes of threatened or endangered species by any commercial fishery in the Atlantic. Permits are not required for Category III fisheries; however, any serious injury or mortality of a marine mammal must be reported.

7.2. Endangered Species Act (ESA) Requirements

[1] PBR is the number of human-caused deaths per year each stock can withstand and still reach an optimum population level. This is calculated by multiplying "the minimum population estimate" by "½ stock's net productivity rate" by "a recovery factor ranging from 0.1 for endangered species to 1.0 for healthy stocks."

The taking of endangered sea turtles and marine mammals is prohibited and considered unlawful under Section 9(a)(1) of the ESA. In addition, NMFS or the USFWS may issue Section 4(d) protective regulations necessary and advisable to provide for the conservation of threatened species. There are several mechanisms established in the ESA to allow exceptions to the take prohibition in Section 9(a)(1). Section 10(a)(1)(A) of the ESA authorizes NMFS to allow the taking of listed species through the issuance of research permits for scientific purposes or to enhance the propagation or survival of the species. Section 10(a)(1)(B) authorizes NMFS to permit, under prescribed terms and conditions, any taking otherwise prohibited by Section 9(a)(1)(B) of the ESA, if the taking is incidental to, and not the purpose of, carrying out an otherwise lawful activity. Finally, Section 7(a)(2) requires federal agencies to consult with NMFS to ensure that any action that is authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat of such species. If, following completion of consultation, an action is found to jeopardize the continued existence of any listed species or cause adverse modification to critical habitat of such species, reasonable and prudent alternatives will be identified so that jeopardy or adverse modification to the species is removed and section 7(a)(2) is met (see Section 7(b)(3)(A)). Alternatively, if, following completion of consultation, an action is not found to jeopardize the continued existence of any listed species or cause adverse modification to critical habitat of such species, reasonable and prudent measures will be identified that minimize the take of listed species or adverse modification of critical habitat of such species (see Section 7(b)(4)). Section (7)(o) provides the actual exemption from the take prohibitions established in Section 9(a)(1), which includes Incidental Take Statements that are provided at the end of consultation via the ESA Section 7 Biological Opinions.

Under Section 7 of the Endangered Species Act of 1973, as amended, a review of listed species and designated critical habitat(s) known to occur in the area of proposed action(s) and potential impacts to these species and habitat(s) is required of federal FMPs. Although not required for Commission FMPs, the following is included for informational purposes.

Marine listed species and critical habitat designations in the eastern U.S.

Species	**Status**	**Potentially affected by this action?**
Cetaceans		
North Atlantic right whale (*Eubalaena glacialis*)	Endangered	Yes
Humpback whale (*Megaptera novaeangliae*)	Endangered	Yes
Fin whale (*Balaenoptera physalus*)	Endangered	Yes
Sei whale (*Balaenoptera borealis*)	Endangered	Yes
Blue whale (*Balaenoptera musculus*)	Endangered	No
Sperm whale (*Physeter macrocephalus*	Endangered	No
Minke whale (*Balaenoptera acutorostrata*)	Protected	Yes

Pilot whale (*Globicephala spp*.)[1]	Protected	Yes
Risso's dolphin (*Grampus griseus*)	Protected	Yes
Atlantic white-sided dolphin (*Lagenorhynchus acutus*)	Protected	Yes
Short Beaked Common dolphin (*Delphinus delphis*)[2]	Protected	Yes
Spotted dolphin (*Stenella frontalis*)	Protected	No
Bottlenose dolphin (*Tursiops truncatus*)[3]	Protected	Yes
Harbor porpoise (*Phocoena phocoena*)	Protected	Yes
Sea Turtles		
Leatherback sea turtle (*Dermochelys coriacea*)	Endangered	Yes
Kemp's ridley sea turtle (*Lepidochelys kempii*)	Endangered	Yes
Green sea turtle (*Chelonia mydas*)	Endangered[4]	Yes
Loggerhead sea turtle (*Caretta caretta*), Northwest Atlantic DPS	Threatened	Yes
Hawksbill sea turtle (*Eretmochelys imbricate*)	Endangered	No
Fish		
Shortnose sturgeon (*Acipenser brevirostrum*)	Endangered	No
Atlantic salmon (*Salmo salar*)	Endangered	Yes
Atlantic sturgeon *(Acipenser oxyrinchus)*		
Gulf of Maine DPS	Threatened	Yes
New York Bight DPS, Chesapeake Bay DPS, Carolina DPS & South Atlantic DPS	Endangered	Yes
Cusk (*Brosme brosme*)	Candidate	Yes
Pinnipeds		
Harbor seal (*Phoca vitulina*)	Protected	Yes
Gray seal (*Halichoerus grypus*)	Protected	Yes
Harp seal (*Phoca groenlandicus*)	Protected	Yes
Hooded seal (*Cystophora cristata*)	Protected	Yes
Critical Habitat		
North Atlantic Right Whale	ESA Listed	No
Atlantic Salmon	ESA Listed	No

Northwest Atlantic DPS of Loggerhead Sea Turtle	ESA Listed	No

Notes:

[1] There are 2 species of pilot whales: short finned (*G. melas melas*) and long finned (*G. macrorhynchus*). Due to the difficulties in identifying the species at sea, they are often just referred to as *Globicephala spp*.

[2] Prior to 2008, this species was called "common dolphin."

[3] This includes the Western North Atlantic Offshore, Northern Migratory Coastal, and Southern Migratory Coastal Stocks of Bottlenose Dolphins.

[4] Green turtles in U.S. waters are listed as threatened except for the Florida breeding population which is listed as endangered. Due to the inability to distinguish between these populations away from the nesting beach, green turtles are considered endangered wherever they occur in U.S. waters.

Candidate species are those petitioned species that NMFS is actively considering for listing as endangered or threatened under the ESA. Candidate species also include those species for which NMFS has initiated an ESA status review through an announcement in the Federal Register. Candidate species receive no substantive or procedural protection under the ESA; however, NMFS recommends that project proponents consider implementing conservation actions to limit the potential for adverse effects on candidate species from any proposed project. NMFS has initiated review of recent stock assessments, bycatch information, and other information for these candidate and proposed species. The results of those efforts are needed to accurately characterize recent interactions between fisheries and the candidate/proposed species in the context of stock sizes. Any conservation measures deemed appropriate for these species will follow the information reviews. Please note that once a species is proposed for listing the conference provisions of the ESA apply (see 50 CFR 402.10).

Many of the protected species that occur in the New England and Mid-Atlantic waters have never been observed as bycatch in the lobster trap/pot fishery, nor have they been documented as killed by lobster trap/pot gear in the stranding records. Based on this information, detailed species accounts are given below for endangered, threatened or protected species that are likely to be incidentally taken in the lobster trap/pot fishery. The remaining non ESA-listed species that are not likely to be affected will not be discussed further in this statement.

4.3.1 Species Potentially Affected

North Atlantic Right Whale

The North Atlantic right whale (Eubalaena glacialis) is listed as endangered under the ESA and is among the most endangered large whale species in the world. Two populations, an eastern and a western, are typically recognized (IWC, 1986). However, animals are sighted so infrequently in the eastern Atlantic, it is unclear whether a viable population still exists (NMFS, 1991a). This analysis focuses on the western North Atlantic population of right whales, which occurs in the proposed action area.

North Atlantic right whales are one of the most intensely studied cetacean species. Yet, despite decades of conservation measures, the population remains at low numbers. Fewer than 200 females are estimated in the population (Best et al. 2001). As of 2009, there were only an estimated 97 breeding females (Schick et al. 2009). Modeling work using data collected through the mid-1990s indicated that if the conditions that existed at that time were to continue, western North Atlantic right whales would be extinct within 200 years (Caswell et al. 1999).

The total number of North Atlantic right whales is estimated to be at least 444 animals (Waring et al. 2013). The minimum rate of annual human-caused mortality and serious injury to right whales averaged 3.0 mortality or serious injury incidents per year during 2006 to 2010 (Waring et al. 2011). Of these, fishery interactions resulted in an average of 1.8 mortality or serious injury incidents per year, all in U.S. waters. The potential biological removal (PBR) level for this stock is 0.9 animals per year (Waring et al. 2011). PBR is the product of minimum population size, one-half the maximum productivity rate, and a "recovery" factor (MMPA Sec. 3. 16 U.S.C. 1362) (Wade and Angliss 1997).

North Atlantic right whales have a wide distribution that overlaps with U.S. and Canadian commercial fishing grounds in the western Atlantic as well as shipping traffic to and from numerous ports. Coastal areas frequented by right whales are heavily developed. North Atlantic right whales generally occur west of the Gulf Stream, from the southeast U.S. to Canada (e.g., Bay of Fundy and Scotian Shelf) (Kenney 2002; Waring et al. 2009). They are not found in the Caribbean and have been recorded only rarely in the Gulf of Mexico. North Atlantic right whales are abundant in Cape Cod Bay between February and April (Hamilton and Mayo 1990; Schevill et al. 1986; Watkins and Schevill 1982) and in the Great South Channel in May and June (Kenney et al. 1986; Payne et al. 1990). North Atlantic right whales also frequent Stellwagen Bank and Jeffrey's Ledge, as well as Canadian waters including the Bay of Fundy and Browns and Baccaro Banks, in the spring through fall. The distribution of right whales in summer and fall seems linked to the distribution of their principal zooplankton prey (Winn et al. 1986). Calving occurs in the winter months in coastal waters off of Georgia and Florida (Kraus et al. 1988). Mid-Atlantic waters are used as a migratory pathway from the spring and summer feeding/nursery areas to the winter calving grounds off the coast of Georgia and Florida. In terms of abundance, an exact count of right whales in the western North Atlantic cannot be obtained.

Based on a census of individual whales using photo-identification techniques, a total of 425 individually recognized whales were known to be alive during 2009. Whales identified by this date included 20 of the 39 calves born during that year. Thus adding the 19 calves not yet catalogued brings the minimum number alive in 2009 to 444 (Waring et al. 2013). Previous

estimates using the same method with the added assumption of mortality for those whales not seen in 7 years, a total of 299 right whales was estimated in 1998 (Kraus et al. 2001), and a review of the photo-ID recapture database on July 6, 2010, indicated that 396 individually recognized whales were known to be alive during 2007 (Waring et al. 2011). Because this 2009 review was a nearly complete census, it is assumed this estimate represents a minimum population size. The minimum number alive population index for the years 1990-2009 suggests a positive and slowly accelerating trend in numbers. These data reveal a significant increase in the number of catalogued whales alive during this period. Mean growth rate for the period was 2.6% (Waring et al. 2013).

Ship strikes and fishing gear entanglements are the principal factors believed to be retarding growth and recovery of western North Atlantic right whales population. Data collected from 1970 through 1999 indicate that anthropogenic interactions in the form of ship strikes and gear entanglements are responsible for a minimum of two-thirds of the confirmed and possible mortality of non-neonate right whales. Johnson et al. (2005) noted that any part of the gear (buoy line, groundline, floatline, and surface system line) creates a risk for entanglement. Several aspects of right whale behavior may contribute to this high entanglement frequency.
Of 31 recorded right whale entanglement events examined between 1993 and 2002, 24 (77.4 percent) involved animals with gear in the mouth (some included other points of gear attachment on the body as well) and 16 (51.6 percent) were entangled only at the mouth (Johnson et al. 2005). This suggests that a large number of entanglements occur while right whales feed, since open mouth behavior is generally associated with feeding only. Although the sample size was small for cases in which the point of gear attachment and the associated gear part could be examined, Johnson et al. (2005) reported that two out of three right whale floating groundline entanglements and six out of eight vertical line entanglements (buoy line and surface system lines) involved the mouth (note that some of these cases may have involved other body parts as well). In addition, three buoy line entanglement events involved the tail; the entanglement of one of these animals additionally involved groundline.

Right whales feed by swimming continuously with their mouths open, filtering large amounts of water through their baleen and capturing zooplankton on the baleen's inner surface. A study of right whale foraging behavior in Cape Cod Bay conducted by Mayo and Marx (1990) revealed that right whales feeding at the surface had their mouths open for approximately 58 minutes of each hour. Also, feeding right whales exhibited increased turning behavior and a convoluted path once they had found a sufficiently dense patch of zooplankton on which to feed. This behavior differed significantly from that of traveling whales, who swam in relatively straight paths with their mouths closed. In addition, socializing whales (two or more whales at the surface occasionally making physical contact) exhibited even more twisted paths than feeding whales. Socializing was often associated with rolling and lifting the flippers above the water's surface, behaviors that may add to entanglement risk, especially from buoy line and surface system lines. Goodyear (1996) studied well-known right whale feeding areas (Cape Cod/Massachusetts Bay, Great South Channel, and the Bay of Fundy) and reported that feeding behavior varies based on the location of prey. Right whales spend a substantial amount of time feeding below the surface in the Bay of Fundy, where no surface feeding activities were observed. In order to meet their metabolic needs, right whales must feed on dense aggregations of copepods. Right whales received most of their food energy (approximately 91.1 percent) during deep dives (average

depth of 134 meters), with the remainder (approximately 9.9 percent) occurring through surface feeding. Right whales spend about one-third of their time surface feeding in the Cape Cod/Massachusetts Bay and Gulf of Maine areas, which may increase entanglement risk from buoy line and surface system lines during the times they visit these areas (December to May). While in the Great South Channel (April to June), right whales spend approximately 10 percent of the time feeding at the surface and 90 percent of the time feeding at lower depths. Not included in these numbers is one right whale that was entangled in both buoy line and groundline on the tail.

Humpback Whale

The North Atlantic humpback whale (Megaptera novaeangliae) is listed as an endangered species under the ESA. A Recovery Plan has been published and is in effect (NMFS 1991b).
In the western North Atlantic, humpback whales calve and mate in the West Indies during the winter and migrate to northern feeding areas during the summer months. Calves are recruited to the feeding grounds of their mothers in a practice referred to as maternal philopatry (Clapham and Mayo 1987; Katona and Beard 1990). In the Gulf of Maine, sightings are most frequent from mid-March through November between 41 degrees north and 43 degrees north, from the Great South Channel north along the outside of Cape Cod to Stellwagen Bank and Jeffrey's Ledge, and peak in May and August (CETAP 1982). Studies have matched 27 percent of the individuals on the Canadian Scotian Shelf to the Gulf of Maine population (Clapham et al. 2003) and one study identified a Gulf of Maine whale as far away as west Greenland (Katona and Beard 1990). Small numbers of individuals may be present in New England waters year-round, including the waters of Stellwagen Bank (Clapham et al. 1993). They feed on a number of species of small schooling fishes, particularly sand lance, mackerel, and Atlantic herring, by targeting fish schools and filtering large amounts of water for their associated prey. Humpback whales have also been observed feeding on krill (Wynne and Schwartz 1999).

The overall North Atlantic population, derived from genetic taggind data collected by the Years of the North Atlantic Humpback (YONAH) project on breeding ground was estimated to be 4,894 males and 2,804 females, or 7,698 individuals. Photographic mark-recapture analyses from the YONAH project gave an ocean-basin-wide estimate of 11,570 animals during 1992/1993 and an additional genotype-based analysis yielded a similar but less precise estimate of 10,400 whales (95% c.i. = 8,000-13,600) (Waring et al. 2013). As part of a large-scale assessment called More of North Atlantic Humpbacks (MoNAH) project, extensive sampling was conducted on humpbacks in the Gulf of Maine/Scotian Shelf region and the primary wintering ground on Silver Bank during 2004-2005. These data are being analyzed along with additional data from the Gulf of Maine to estimate abundance and refine knowledge of the North Atlantic humpback whales' population structure. The work is intended to update the YONAH population assessment. The most recent line-transect survey, which did not include the Scotian Shelf portion of the stock, produced an estimate of abundance for Gulf of Maine humpback whales of 331 animals (CV=0.48) with a resultant minimum population estimate for this stock of 228 animals. The line-transect based Nmin is unrealistic because at least 500 uniquely identifiable individual whales from the GOM stock were seen during the calendar year of that survey and the actual population would have been larger because re-sighting rates of GOM humpbacks have historically been <1. Using the minimum count from at least 2 years prior to the year of a stock assessment report allows time to resight whales known to be alive prior to and

after the focal year. Thus the minimum population estimate is set to the 2008 mark-recapture based count of 823 (Waring et al. 2013).

Population modeling, using data obtained from photographic mark-recapture studies, estimates the growth rate of the Gulf of Maine stock to be 6.5% for the period 1979-1991 (Barlow and Clapham 1997). More recent analysis for the period 1992-2000 estimated lower population growth rates ranging from 0 percent to 4.0 percent, depending on calf survival rate (Clapham et al. 2003 in Waring et al. 2011). However, it was unclear whether the apparent decline in growth rate is a biased result due to a shift in distribution documented for the period 1992-1995, or whether the population growth rates truly declined due to high mortality of young-of-the-year whales in U.S. Mid-Atlantic waters (Waring et al. 2011). Zerbini et al. (2010) reviewed various estimates of maximum productivity rates for humpback whale populations, and, based on simulation studies, they proposed that 11.8% be considered as the maximum rate at which the species could grow. Despite the uncertainty accompanying the more recent estimates of observed population growth rate for the Gulf of Maine stock, the maximum net productivity rate was assumed to be 6.5% calculated by Barlow and Clapham (1997) because it represents an observation greater than the default of 0.04 for cetaceans (Barlow et al. 1995) but is conservative in that it is well below the results of Zerbini et al. (2010) (Waring et al. 2013). The PBR for the Gulf of Maine stock of humpback whale is 2.7 whales per year (Waring et al. 2013).

As is the case with other large whales, the major known sources of anthropogenic mortality and injury of humpback whales are commercial fishing gear entanglements and ship strikes. Sixty percent of Mid-Atlantic humpback whale mortalities that were closely investigated showed signs of entanglement or vessel collision (Wiley et al. 1995). Between 1992 and 2001, at least 92 humpback whale entanglements and 10 ship strikes were recorded. Many carcasses also washed ashore or were spotted floating at sea for which the cause of death could not be determined. Based on photographs of the caudal peduncle of humpback whales, Robbins and Mattila (1999) estimated that at least 48 percent -- and possibly as many as 78 percent -- of the Gulf of Maine stock of humpback whales exhibit scarring caused by entanglement. These estimates are based on sightings of free-swimming animals that initially survive the encounter. Because some whales may drown immediately, the actual number of interactions may be higher. Decomposed and/or unexamined animals (e.g., carcasses reported but not retrieved or necropsied) represent “lost data”, some of which may relate to human impacts (Waring et al. 2009).

Johnson et al. (2005) noted that any part of the gear (buoy line, groundline, floatline, and surface system line) creates a risk for entanglement. Johnson et al. (2005) also reported that of the 30 humpback whale entanglements examined in the study, 16 (53 percent) involved entanglements in the tail region and 13 (43 percent) involved entanglements in the mouth (note that in both cases, some entanglements included other points of gear attachment on the body). Although the sample size was small for cases in which the point of gear attachment and the associated gear part could be examined, two out of two floating groundline entanglements and four out of seven buoy line entanglements involved the mouth.2 In addition, five out of seven buoy line

2Note that one humpback whale was entangled in both buoy line and groundline and was placed in both categories.

entanglements and three out of four gillnet floatline entanglements involved the tail (Johnson et al. 2005).3

Based on studies of humpback whale caudal peduncle scars, Robbins and Mattila (2000) reported that calves had a lower entanglement risk than yearlings, juveniles, and mature whales; the latter three maturational classes exhibited comparable levels of high probability scarring. Based on these data, as well as evidence that animals acquire new injuries when mature, the authors concluded that actively feeding whales may be at greater risk of entanglement. In any case, juveniles seemed to be at the most risk, possibly due to their relative inexperience.

Humpback whales employ a variety of foraging techniques, which differ from right whale foraging behavior, but which may create entanglement risk (Hain et al. 1982 and Weinrich et al. 1992). One such technique is lunge feeding, in which the whale swims toward a patch of krill or small fish, then lunges into the patch with its mouth agape. The flippers may aid in concentrating the prey or in maneuvering. Another feeding method, called "flick-feeding," involves flexing the tail forward when the whale is just below the surface, which propels water over the whale's head, temporarily disorienting its prey. The whale then swims with its mouth open, through the wave it created. A third foraging strategy is bubble feeding, in which whales swim upwards, while blowing nets or clouds of bubbles, in a spiral under a concentration of prey. This creates a barrier through which the disoriented fish cannot escape. The whales then swim up through the bubble formation, engulfing their prey. These techniques demonstrate that humpback whales commonly use their mouths, flippers, and tails to aid in feeding. Thus, while foraging, all body parts are at risk of entanglement.

Fin Whale

In 1976, the IWC's Scientific Committee proposed seven stocks for North Atlantic fin whales (Balaenoptera physalus): (1) North Norway, (2) West Norway-Faroe Islands, (3) British Isles-Spain and Portugal, (4) East Greenland-Iceland, (5) West Greenland, (6) Newfoundland-Labrador, and (7) Nova Scotia (Perry et al., 1999). However, it is uncertain whether these boundaries define biologically isolated units (Waring et al. 2009).

The present IWC scheme defines the North Atlantic fin whale stock off the eastern coast of the U.S., north to Nova Scotia, and east to the southeastern coast of Newfoundland as a single stock (Donovan 1991). However, information suggests some degree of separation within this population. A number of researchers have suggested the existence of fin whale subpopulations in the North Atlantic based on local depletions resulting from commercial whaling or genetics data (Mizroch and York 1984; Bérubé et al. 1998). Photo identification studies in western North Atlantic feeding areas, particularly in Massachusetts Bay, have shown a high rate of annual return by fin whales, both within years and between years, suggesting some level of site fidelity (Seipt et al. 1990).

3 Note that the entanglements in buoy line exceed the total of seven because some animals were entangled in multiple locations on their body (e.g., both the mouth and the tail).

This particular stock is considered strategic because the fin whale is listed as endangered under the ESA. A Recovery Plan for fin whales is currently awaiting legal process (Waring et al. 2009).

Fin whales inhabit a wide range of latitudes between 20 to 75 degrees north and 20 to 75 degrees south (Perry et al. 1999). Like right and humpback whales, fin whales are believed to use high latitude waters primarily for feeding, and low latitude waters for calving. However, evidence regarding where the majority of fin whales winter, calve, and mate is still scarce. Clark (1995) reported a general pattern of fin whale movements in the fall from the Labrador/Newfoundland region, south past Bermuda and into the West Indies, but neonate strandings along the U.S. Mid-Atlantic coast from October through January suggest the possibility of an offshore calving area (Clark 1995; Hain et al. 1992).

The predominant prey of fin whales varies greatly in different areas depending on what is locally available (IWC 1992). In the western North Atlantic, fin whales feed on a variety of small schooling fish (e.g., herring, capelin, and sand lance) as well as squid and planktonic crustaceans (Wynne and Schwartz 1999).

Various estimates have been provided to describe the current status of fin whales in western North Atlantic waters. One method used the catch history and trends in Catch Per Unit Effort (CPUE) to obtain an estimate of 3,590 to 6,300 fin whales for the entire western North Atlantic (Perry et al. 1999). Hain et al. (1992) estimated that about 5,000 fin whales inhabit the Northeastern U.S. continental shelf waters. The 2012 Stock Assessment Report (SAR) gives a best estimate of abundance for fin whales in the western North Atlantic of 3,522 (CV = 0.27). However, this estimate must be considered extremely conservative in view of the incomplete coverage of the known habitat of the stock and the uncertainties regarding population structure and whale movements between surveyed and unsurveyed areas (Waring et al. 2013). The minimum population estimate for the western North Atlantic fin whale is 2,817 (Waring et al. 2013). However, there are insufficient data at this time to determine population trends for the fin whale (Waring et al. 2013). The PBR for the western North Atlantic fin whale is 5.6. Information on the abundance and population structure of fin whales worldwide is limited. NMFS recognizes three fin whale stocks in the Pacific for the purposes of managing this species under the MMPA: Alaska (Northeast Pacific), California/Washington/Oregon, and Hawaii. Reliable estimates of current abundance for the entire Northeast Pacific fin whale stock are not available. Stock structure for fin whales in the southern hemisphere is unknown and there are no current estimates of abundance for southern hemisphere fin whales.

Like right whales and humpback whales, anthropogenic mortality of fin whales includes entanglement in commercial fishing gear and ship strikes. Of 18 fin whale mortality records collected between 1991 and 1995, four were associated with vessel interactions, although the primary cause of mortality was not known. From 1996 to July 2001, there were nine observed fin whale entanglements and at least four ship strikes. Experts believe that fin whales are struck by large vessels more frequently than any other cetacean (Laist et al. 2001).

Fin whales exhibit lunge feeding techniques near the ocean surface, similar to humpback whales. Fin whales typically approach a prey patch horizontally, sometimes rapidly turning or rolling on

their side inside a prey patch (Watkins and Schevill 1979). Fin whales have also been observed feeding below the surface and fairly close to the bottom in about 15 to 20 meters of water. Entanglement data from 1997 through 2003 indicate few records of fin whale entanglement events (Kenney and Hartley, 2001; Hartley et al. 2003; Whittigham et al. 2005a; Whittingham et al. 2005b). Based on this information, fin whales seem to encounter gear less often than right and humpback whales. This statement is also supported by fin whale catalogs curated by College of the Atlantic and the Center for Coastal Studies, both of which contain records identifying fin whales that lack entanglement-related scarring.

Sei Whale

The range of sei whales (Balaenoptera borealis) extends from subpolar to subtropical and even tropical marine waters; however, the species is most commonly found in temperate waters (Perry et al. 1999). Based on past whaling operations, the IWC recognized three stocks in the North Atlantic: (1) Nova Scotia; (2) Iceland-Denmark Strait; and (3) Northeast Atlantic (Donovan 1991; Perry et al. 1999). Mitchell and Chapman (1977) suggested that the sei whale population in the western North Atlantic consists of two stocks, a Nova Scotian Shelf stock and a Labrador Sea stock. The Nova Scotian Shelf stock includes the continental shelf waters of the Northeast Region, and extends northeastward to south of Newfoundland. The IWC boundaries for this stock are from the U.S. east coast to Cape Breton, Nova Scotia and east to 42°00'W longitude (Waring et al. 2009).

Sei whales became the target of modern commercial whalers in the late 19th and early 20th century after stocks of other whales, including right, humpback, fin, and blues, had already been depleted. Sei whales were taken in large numbers by Norway and Scotland from the beginning of modern whaling (NMFS, 1998a). Small numbers were also taken off of Spain, Portugal, and West Greenland from the 1920s to 1950s (Perry et al. 1999). In the western North Atlantic, a total of 825 sei whales were taken on the Scotian Shelf between 1966 and 1972, and an additional 16 were taken by a shore-based Newfoundland whaling station (Perry et al. 1999). The species continued to be exploited in Iceland until 1986 even though measures to stop whaling of sei whales in other areas had been put into place in the 1970s (Perry et al. 1999). There is no estimate for the abundance of sei whales prior to commercial whaling. Based on whaling records, approximately 14,295 sei whales were taken in the entire North Atlantic from 1885 to 1984 (Perry et al. 1999).

Sei whales winter in warm temperate or subtropical waters and summer in more northern latitudes. In the North Atlantic, most births occur in November and December, when the whales are on their wintering grounds. Conception is believed to occur in December and January. Gestation lasts for 12 months, and calves are weaned at between 6 and 9 months, when the whales are on the summer feeding grounds (NMFS 1998a). Sei whales reach sexual maturity between 5 and 15 years of age. The calving interval is believed to be 2 to 3 years (Perry et al. 1999).

Sei whales occur in deep water throughout their range, typically over the continental slope or in basins situated between banks (NMFS 1998a). In the northwest Atlantic, the whales travel along the eastern Canadian coast in autumn on their way to the Gulf of Maine and Georges Bank, where they occur in winter and spring. Within the Northeast Region, the sei whale is most

common on Georges Bank, including the Great South Channel, and into the Gulf of Maine/Bay of Fundy region during spring and summer. Individuals may range as far south as North Carolina. It is important to note that sei whales are known for inhabiting an area for weeks at a time, then disappearing for years or even decades. This has been observed in many areas, including in the southwestern Gulf of Maine in 1986, but the basis for this phenomenon is not clear.

Although sei whales may prey upon small schooling fish and squid in the Northeast Region, available information suggests that calanoid copepods are the primary prey of this species. There are occasional influxes of sei whales farther into Gulf of Maine waters, presumably in conjunction with years of high copepod abundance inshore. Sei whales are occasionally seen feeding in association with right whales in the southern Gulf of Maine and in the Bay of Fundy, although there is no evidence of interspecific competition for food resources. There is very little information on natural mortality factors for sei whales. Possible causes of natural mortality, particularly for young, old, or otherwise compromised individuals, are shark attacks, killer whale attacks, and endoparasitic helminthes (Perry et al. 1999).

The abundance estimate of 357 sei whales (CV=0.52), was derived from a line-transect sighting survey conducted during 12 June to 4 August 2004 by a ship and plane that surveyed 10,761 km of trackline in waters north of Maryland (38ºN)(Waring et al. 2013). This estimate is best available for the Nova Scotia stock of sei whales, but must be considered extremely conservative because all of the known range of this stock was not surveyed, and because of uncertainties regarding population structure and whale movements between surveyed and unsurveyed areas. An abundance estimate of 207 (CV=0.62) sei whales was obtained from an aerial survey conducted in August 2006 which covered 10,676 km of trackline in the region from the 2000-m depth contour on the southern edge of Georges Bank to the upper Bay of Fundy and to the entrance of the Gulf of St. Lawrence (Waring et al. 2013). An abundance estimate of 357 (CV=0.52) sei whales was generated from a shipboard and aerial surveyconducted during June-August 2011 (Palka 2012). The aerial portion that contributed to the abundance estimate covered 5,313 km of tracklines that were over waters from north of New Jersey and shallower than the 100-m depth contour, through the U.S. and Canadian Gulf of Maine and up to and including the lower Bay of Fundy (Waring et al. 2013). The minimum population estimate for this sei whale stock is 236 (Waring et al. 2013). Current and maximum net productivity rates are unknown for this stock. A population trend analysis has not been done for this species (Waring et al. 2013). The PBR for the Nova Scotia stock sei whale is 0.5 animals. Entanglement is not known to greatly affect this species in the U.S. Atlantic, possibly because sei whales typically inhabit waters farther offshore than most commercial fishing operations, or perhaps because any entanglements that do occur in offshore areas are less likely to be observed.

Minke Whale

The minke whale (Balaenoptera acutorostrata) is not listed as endangered or threatened under the ESA, although the species is protected under the MMPA. The total fishery-related mortality and serious injury for this stock does not exceed PBR (see below). Therefore, this is not considered a strategic stock.

Minke whales off the eastern coast of the United States are considered to be part of the Canadian east coast population, which inhabits the area from the eastern half of Davis Strait south to the Gulf of Mexico. Spring and summer are times of relatively widespread and common occurrence, and during this time minke whales are most abundant in New England waters. During fall, there are fewer minke whales in New England waters, while during winter, the species seems to be largely absent (Waring et al. 2009). Records hint at a possible winter distribution in the West Indies and in mid-ocean south and east of Bermuda (Mitchell 1991). As with several other cetacean species, the possibility of a deep-ocean component to distribution exists but remains unconfirmed.

Minke whales reach sexual maturity between 5 and 7 years of age (NAMMCO 1998). Most mature females become pregnant every year. Mating occurs in the late winter; after a gestation period of 10 months, calves are born in the lower latitudes of the range (Martin et al. 1990). Multiple population estimates are available for portions of minke whale habitat, but the recent abundance estimate for this stock is 20,741 (CV=0.30) minke whales. This is the estimate derived from the Canadian Trans-North Atlantic Sighting Survey (TNASS) in July-August 2007 and is considered best because, while it did not cover any U.S. waters, the survey covered more of the minke whale range than the other surveys reported here (Waring et al, 2013). During 2006 to 2010, the average annual minimum detected human-caused mortality and serious injury was 5.0 minke whales per year (2.6 (0.46) minke whales per year from observed U.S. fisheries, 1.0 minke whales per year (unknown CV) from U.S. fisheries using strandings and entanglement data, 1.0 (unknown CV) from Canadian fisheries using strandings and entanglement data, and 0.4 per year from U.S. ship strikes (Waring et al. 2013). PBR for this stock is 162 animals per year (Waring et al. 2013).

Based on Waring et al. (2009), fishing gear entanglements account for the majority of the human-caused mortalities of minke whales. Like the other large whale species discussed, feeding behavior may be an important factor that contributes to entanglement risk. Minke whales in the Northwest Atlantic typically feed on small schooling fish, such as sand lance, herring, cod, and mackerel (Ward 1995). The whales may follow the movements of their prey and subsequently swim closer to shore and to heavy concentrations of fishing gear, making them more susceptible to entanglements. Studies conducted in the Bay of Fundy and Gulf of St. Lawrence indicated that minke whales feed by displaying surface lunges and rolling (Sears et al. 1981; Haycock and Mercer 1984). In contrast, a study conducted on minke whales in Cape Cod Bay and Massachusetts Bay showed a lack of surface feeding behavior (Murphy 1995). It is likely, however, that large whales may encounter gear in any part of the water column.
The majority of documented minke whale entanglements reported by Waring et al. (2009) resulted in the death of the animal. Waring et al. (2009) report the mouth and tail stock/fluke regions to be a common entanglement location for those minke whales that were seriously injured or killed.

Harbor Seal

The harbor seal (*Phoca vitulina*) is not listed as endangered or threatened under the ESA, although the species is protected under the MMPA. Although PBR cannot be determined for this stock, the level of human-caused mortality and serious injury in the U.S. Atlantic EEZ is believed to be low relative to the total stock size; therefore, this is not a strategic stock.

The harbor seal is found in all nearshore waters of the Atlantic Ocean above 30 degrees latitude (Waring et al. 2009). In the western North Atlantic they are distributed from the eastern Canadian Arctic and Greenland south to southern New England and New York, and occasionally the Carolinas (Boulva and McLaren 1979; Gilbert and Guldager 1998). It is believed that the harbor seals found along the U.S. and Canadian east coasts represent one population (Waring et al. 2009). Harbor seals are year-round inhabitants of the coastal waters of eastern Canada and Maine, and occur seasonally along the southern New England and New York coasts from September through late May. However, breeding and pupping normally occur in waters north of the New Hampshire/Maine border, although breeding occurred as far south as Cape Cod in the early part of the twentieth century. Since passage of the MMPA in 1972, the observed count of seals along the New England coast has been increasing. Coast-wide aerial surveys along the Maine coast were conducted in May/June 1981, 1986, 1993, 1997, and 2001 during pupping (Gilbert and Stein 1981; Gilbert and Wynne 1983, 1984; Kenney 1994; Gilbert and Guldager 1998; Gilbert et al. 2005). However, estimates older than 8 years are deemed unreliable (Wade and Angliss 1997), and should not be used for PBR determinations. Therefore, there is no current abundance estimate for harbor seals. The 2001 survey, conducted in May/June, included replicate surveys and radio tagged seals to obtain a correction factor for animals not hauled out. The corrected estimate (pups in parenthesis) for 2001 was 99,340 (23,722). The 2001 observed count of 38,014 is 28.7% greater than the 1997 count. Increased abundance of seals in the Northeast region has also been documented during aerial and boat surveys of overwintering haul-out sites from the Maine/New Hampshire border to eastern Long Island and New Jersey (Payne and Selzer 1989; Rough 1995; Barlas 1999; Schroeder 2000; deHart 2002).

Incidental takes of harbor seals have been recorded in groundfish gillnet, bottom trawl, herring purse seine, halibut tub trawl, and lobster fisheries (Gilbert and Wynne 1985 and 1987; Waring et al. 2009). Mortalities involving the herring purse seine, halibut tub trawl, and lobster fisheries are reportedly rare. The Northeast multispecies sink gillnet fishery is responsible for the majority of harbor seal fishery takes on the East Coast of the United States. This fishery is located in the Gulf of Maine and in Southern New England. There were 658 harbor seal mortalities observed in the Northeast sink gillnet fishery between 1990 and 2010, excluding 3 animals taken in the 1994 pinger experiment (NMFS unpublished data) but including one animal taken in a hanging ratio experiment. Williams (1999) aged 261 harbor seals caught in this fishery from 1991 to 1997, and 93 percent were juveniles (i.e.. less than 4 years old). Estimated annual mortalities (CV in parentheses) from this fishery were 332 (0.33) in 1998, 1,446 (0.34) in 1999, 917 (0.43) in 2000, 1,471 (0.38) in 2001, 787 (0.32) in 2002, 542 (0.28) in 2003, 792 (0.34) in 2004, 719 (0.20) in 2005, 87 (0.58) in 2006, 92 in 2007, 243 (0.41) in 2008, 516 (0.28) in 2009, and 461 (0.30) in 2010.

No harbor seals were taken in observed Mid-Atlantic coastal gillnet fishery trips during 1993–1997, or 1999–2003. Two harbor seals were observed taken in 1998, 1 in 2004, 2 in 2005, 1 in 2006, 0 in 2007, 2 in 2008, 2 in 2009, and 6 in 2010. Using the observed and experimental takes, the estimated annual mortality (CV in parentheses) attributed to this fishery was 0 in 1995–1997 and 1999–2003, 11 in 1998 (0.77), 15 (0.86) in 2004, 63 (0.67) in 2005, 26 (0.98) in 2006, 0 in 2007, 88 (0.74) in 2008, 47 (0.68) in 2009, and 89 (0.41) in 2010. Average annual estimated fishery-related mortality attributable to this fishery during 2006–2010 was 50 (CV =0.34) harbor seals.

One harbor seal mortality was observed in the Northeast bottom trawl fishery in 2010. The estimated annual fishery-related mortality and serious injury attributable to this fishery has not been generated. Until this bycatch estimate can be developed, the average annual fishery-related mortality and serious injury for 2006–2010 is calculated as 0.2 animals (1 animal every 5 years). Additional sources of mortality for harbor seals include boat strikes, entrainment in power plant intakes (12-20 per year), oil contamination, shooting (around salmon aquaculture sites and fixed fishing gear), storms, abandonment by the mother, and disease (Katona et al. 1993).

Loggerhead Sea Turtle

The loggerhead sea turtle (Caretta caretta) was listed as threatened under the ESA on July 28, 1978, but is considered endangered by the International World Conservation Union (IUCN). Loggerheads are circumglobal, inhabiting continental shelves, bays, estuaries, and lagoons in temperate, subtropical, and tropical waters. The loggerhead sea turtle is the most abundant species of sea turtle in U.S. waters. They commonly occur in the U.S. throughout the inner continental shelf from Florida through Cape Cod, Massachusetts. Loggerhead sea turtles are found in Virginia foraging areas as early as April, but are not usually found on the most northern foraging grounds in the Gulf of Maine until June. The large majority leave the Gulf of Maine by mid-September, but some may remain in Mid-Atlantic and Northeast waters until late fall. During November and December, loggerheads appear to concentrate in nearshore and southerly areas influenced by warmer Gulf Stream waters off North Carolina. Summer nesting usually occurs in the lower latitudes.

Genetic analyses conducted since the last 5-year review indicate there are five demographically independent groups in the Western North Atlantic, corresponding to nesting beaches found in Florida and Mexico. The primary metric used to evaluate trends in global loggerhead populations are counts of beach nests, many of which occur in areas outside U.S. waters. Given that loggerhead nest counts have generally declined during the period 1989-2005, NMFS & USFWS (2007b) concluded that loggerhead turtles should not be delisted or reclassified and should remain designated as threatened under the ESA. However, the review also concluded that available information indicates that an analysis and review of the species should be conducted in the future to determine if application of the Distinct Population Segment policy under the ESA is warranted for the species. Additionally, the Center for Biological Diversity and the Turtle Island Restoration Network filed a petition to reclassify loggerhead turtles in the North Pacific Ocean as a distinct population segment (DPS) with endangered status and designate critical habitat under the ESA (72 FR 64585; November 16, 2007). Critical habitat for loggerhead sea turtles was proposed in July 2013 (78 FR 43005). While this petition is geared toward the North Pacific, the possibility exists that it could affect status in other areas. NMFS concluded that the petition presented substantial scientific information such that the petition action may be warranted, and has since published a final rule (76 FR 58868; September 22, 2011) after requesting comment, available at: http://www.nmfs.noaa.gov/pr/pdfs/fr/fr76-58868.pdf. In this final rule, we determined that determined that the loggerhead sea turtle is composed of nine DPSs that constitute ‘‘species’’ that may be listed as threatened or endangered under the ESA. We listed four DPSs as threatened and five as endangered under the ESA. We will propose to designate critical habitat for the two loggerhead sea turtle DPSs occurring within the United States in a future rulemaking.

The Second Revision of the Recovery Plan for the Northwest Atlantic Population of the Loggerhead Sea turtle (Caretta caretta) was published in December 2008 (NMFS and USFWS 2008). The Loggerhead Recovery Team conducted a detailed analysis of threats to assist in prioritizing recovery actions. The highest priority threats, adjusted for relative reproductive values for each life stage/ecosystem, include bottom trawl, pelagic longline, demersal longline, and demersal large mesh gillnet fisheries; legal and illegal harvest; vessel strikes; beach armoring; beach erosion; marine debris ingestion; oil pollution; light pollution; and predation by native and exotic species.

Currently, there are no population estimates for loggerhead sea turtles in any of the ocean basins in which they occur. However, a recent loggerhead assessment prepared by NMFS states that the loggerhead adult female population in the western North Atlantic ranges from 20,000 to 40,000 or more, with a large range of uncertainty in total population size (SEFSC 2009).
As part of the Atlantic Marine Assessment Program for Protected Species , line transect aerial abundance surveys and turtle telemetry studies were conducted along the Atlantic Coast in the summer of 2010. The Atlantic Marine Assessment Program for Protected Species is a multi-agency initiative to assess marine mammal, sea turtle, and seabird abundance and distribution in the Atlantic. Aerial surveys were conducted from Cape Canaveral, Florida to the Gulf of St. Lawrence, Canada. Satellite tags on juvenile loggerhead turtles were deployed in two locations: off the coasts of northern Florida to South Carolina (n=30) and off the New Jersey and Delaware coasts (n=14). As presented in NMFS NEFSC (2011), the 2010 survey found a preliminary total surface abundance estimate within the entire study area of about 60,000 loggerhead turtles (CV=0.13) or 85,000 if a portion of unidentified hardshelled sea turtles were included (CV=0.10). Surfacing times were generated from the satellite tag data collected during the aerial survey period, resulting in a 7 percent (5 to -11 percent inter-quartile range) median surface time in the South Atlantic area and a 67 percent (57 to 77 percent inter-quartile range) median surface time to the north. The calculated preliminary regional abundance estimate is about 588,000 loggerhead turtles along the U.S. Atlantic coast, with an inter-quartile range of 382,000 to 817,000 loggerhead turtles (NMFS NEFSC 2011). The estimate increases to approximately 801,000, with an inter-quartile range of 521,000-1,111,000 loggerhead turtles when based on known loggerhead turtles and a portion of unidentified turtle sightings. The density of loggerheads was generally lower in the north than the south; based on number of turtle groups detected, 64 percent were seen south of Cape Hatteras, North Carolina, 30 percent in the southern Mid-Atlantic Bight, and 6 percent in the northern Mid-Atlantic Bight. Although they have been seen farther north in previous studies (e.g., Shoop and Kenney 1992), no loggerheads were observed during the aerial surveys conducted in the summer of 2010 in the more northern zone encompassing Georges Bank, Cape Cod Bay, and the Gulf of Maine. These estimates of loggerhead abundance over the U.S. Atlantic continental shelf are considered very preliminary.

A more thorough analysis will be completed pending the results of further studies related to improving estimates of regional and seasonal variation in loggerhead surface time (by increasing the sample size and geographical area of tagging) and other information needed to improve the biases inherent in aerial surveys of sea turtles (e.g., research on depth of detection and species misidentification rate). This survey effort represents the most comprehensive assessment of sea turtle abundance and distribution in many years. Additional aerial surveys and research to improve the abundance estimates are anticipated in 2011-2014, depending on available funds.

Anthropogenic factors that impact hatchlings and adult females on land, or the success of nesting and hatching include: beach erosion, beach armoring, and nourishment; artificial lighting; beach cleaning; beach pollution; increased human presence; recreational beach equipment; vehicular and pedestrian traffic; coastal development/construction; exotic dune and beach vegetation; removal of native vegetation; and poaching. An increased human presence at some nesting beaches or close to nesting beaches has led to secondary threats such as the introduction of exotic fire ants, feral hogs, dogs, and an increased presence of native species (e.g., raccoons, armadillos, and opossums) which raid nests and feed on turtle eggs (NMFS and USFWS 2007a, 2008). Loggerheads are affected by a completely different set of anthropogenic threats in the marine environment. These include oil and gas exploration, coastal development, and transportation; marine pollution; underwater explosions; hopper dredging; offshore artificial lighting; power plant entrainment and/or impingement; entanglement in debris; ingestion of marine debris; marina and dock construction and operation; boat collisions; poaching; and fishery interactions. A 1990 National Research Council (NRC) report concluded that for juveniles, sub-adults, and breeders in coastal waters, the most important source of anthropogenic caused mortality in U.S. Atlantic waters was fishery interactions.

Loggerhead turtles are captured and injured or killed in interactions with a variety of fishing gear, including shrimp trawl, gillnet, longline, dredge, pound net, pot/trap, and hook and line fisheries. The average annual bycatch estimate of loggerhead sea turtles from 2000-2004 (based on the rate from 1994-2004) over FMP groups identified by the Greater Altantic Regional Fisheries Office (GARFO) was 411 turtles, with an additional 77 estimated bycatch events unassigned.

There have been three entanglements of loggerhead turtles reported in lobster gear. One loggerhead turtle was reported dead in New Jersey in July 1983; one loggerhead turtle was reported as released alive in New York in August 1987; and one loggerhead turtle was reported dead, entangled by the right flipper, in a pot line located in New Jersey in July of 1991. In addition, the Sea Turtle Stranding and Salvage Network (STSSN) database reveals that from 1980 to 2000, there was one loggerhead turtle alive and entangled in lobster gear in Massachusetts (SEFSC STSSN database). More recent data (2002-2008), has recorded confirmed reports of eight loggerhead entanglements in vertical line gear. Four of those entanglements were confirmed to be caused by whelk pots, and one confirmed to be from crab fisheries. Gear from three of the loggerhead entanglements was never identified.

Leatherback Sea Turtle

Leatherback sea turtles (*Dermochelys coriacea*) were listed as endangered under the ESA on June 2, 1970. Leatherback turtles are the largest of the living turtles and are distinct from other sea turtle species because of its rubber-like, flexible carapace. Like the loggerhead, the leatherback is also circumglobal. In the northwestern Atlantic, the leatherback turtle's range extends from Cape Sable, Nova Scotia, south to Puerto Rico and the U.S. Virgin Islands. Nesting occurs from February through July at sites located from Georgia to the U.S. Virgin Islands. During the summer, leatherbacks tend to be found along the east coast of the U.S. from the Gulf of Maine south to the middle of Florida.

The leatherback sea turtle population was estimated at approximately 115,000 adult females globally in 1980 (Pritchard 1982). By 1995, this global population of adult females was estimated to have declined to 34,500 (Spotila et al. 1996). However, the most recent population size estimate for the North Atlantic alone is a range of 34,000 to 94,000 adult leatherback turtles (Turtle Expert Working Group, TEWG 2007). Thus, there is substantial uncertainty with respect to global population estimates of leatherback sea turtles.

Seven leatherback sea turtle populations or groups of populations were identified by the Leatherback TEWG as occurring within the Atlantic. These are: Florida, North Caribbean, Western Caribbean, Southern Caribbean, West Africa, South Africa, and Brazil (TEWG 2007). In the U.S., the Florida Statewide Nesting Beach Survey program has documented an increase in leatherback nesting numbers from 98 nests in 1988 to between 800 and 900 nests in the early 2000s (NMFS and USFWS 2007b). An analysis of Florida's index nesting beach sites from 1989-2006 shows a substantial increase in leatherback nesting in Florida during this time, with an annual growth rate of approximately 1.17 (TEWG 2007). The TEWG reports an increasing or stable trend for all of the seven populations or groups of populations with the exception of the Western Caribbean and West Africa.

Poaching is not known to be a problem for U.S. nesting populations. However, numerous fisheries that occur in both U.S. state and Federal waters are known to negatively impact juvenile and adult leatherback sea turtles. Leatherbacks have been documented interacting with longline, trap/pot, trawl, and gillnet fishing gear. Of the Atlantic sea turtle species, leatherbacks seem to be the most vulnerable to entanglement in fishing gear, particularly with trap/pot fishing gear. This susceptibility may be the result of their body type (large size, long pectoral flippers, and lack of a hard shell), and their attraction to gelatinous organisms and algae that collect on buoys and buoy lines at or near the surface, and perhaps to the lightsticks used to attract target species in longline fisheries. Leatherbacks entangled in fishing gear generally have a reduced ability to feed, dive, surface to breathe, or perform any other behavior essential to survival (Balazs 1985). In addition to drowning from forced submergence, they may be more susceptible to boat strikes if forced to remain at the surface, and entangling lines can constrict blood flow resulting in tissue necrosis. The American lobster fishery has been verified as the gear/fishery involved in 29 leatherback entanglements in the Northeast Region between 2002-2008 (STDN 2009). All of the 29 entanglements involved vertical lines of the lobster gear. Other major threats facing the leatherback sea turtle in the Atlantic Ocean include marine pollution (including ingesting marine debris), development and erosion of nesting beach sites, and vessel strikes.

4.3.2 Species Not Likely to Be Affected

Several ESA-listed species, while their distribution overlaps to some degree with the management unit of the lobster trap/pot fishery, are not likely to be affected by the fishery since the fishery does not typically operate in areas where these species occur or the gear used is not known to affect the species. These species include Atlantic sturgeon, shortnose sturgeon, the Gulf of Maine Distinct Population of Atlantic Salmon, hawksbill sea turtles, green sea turtles, Kemp's ridley sea turtles, blue whales, and sperm whales.

Atlantic Sturgeon

A status review for Atlantic sturgeon was completed in 2007 which indicated that five distinct population segments (DPS) of Atlantic sturgeon exist in the United States (ASSRT 2007). On October 6, 2010, NMFS proposed listing these five DPSs of Atlantic sturgeon along the U.S. East Coast as either threatened or endangered species (75 FR 61872 and 75 FR 61904). Final listing rules were published on February 6th, 2012 (77 FR 5880 and 75 FR 5914). The GOM DPS of Atlantic sturgeon has been listed as threatened, and the New York Bight, Chesapeake Bay, Carolina, and South Atlantic DPSs of Atlantic sturgeon have been listed as endangered. Atlantic sturgeon from any of the five DPSs could occur in areas where the American lobster fishery operates.

Atlantic sturgeon is an anadromous species that spawns in relatively low salinity, river environments, but spends most of its life in the marine and estuarine environments from Labrador, Canada to the Saint Johns River, Florida (Holland and Yelverton 1973, Dovel and Berggen 1983, Waldman et al. 1996, Kynard and Horgan 2002, Dadswell 2006, Atlantic Sturgeon Status Review Team (ASSRT) 2007). Tracking and tagging studies have shown that sub-adult and adult Atlantic sturgeon that originate from different rivers mix within the marine environment, utilizing ocean and estuarine waters for life functions such as foraging and overwintering (Stein et al. 2004a, Dadswell 2006, ASSRT 2007, Laney et al. 2007, Dunton et al. 2010).

Fishery-dependent data as well as fishery-independent data demonstrate that Atlantic sturgeon use relatively shallow inshore areas of the continental shelf; primarily waters less than 50 m deep (Stein et al. 2004b, ASMFC TC 2007, Dunton et al. 2010). The data also suggest regional differences in Atlantic sturgeon depth distribution with sturgeon observed in waters primarily less than 20 m in the Mid-Atlantic Bight and in deeper waters in the Gulf of Maine (Stein et al. 2004b, ASMFC TC 2007, Dunton et al. 2010). Information on population sizes for each Atlantic sturgeon DPS is very limited. Based on the best available information, NMFS has concluded that bycatch, vessel strikes, water quality and water availability, dams, lack of regulatory mechanisms for protecting the fish, and dredging are the most significant threats to Atlantic sturgeon.

Since the ESA listing of Atlantic sturgeon, the NEFSC has completed new population estimates using data from the Northeast Area Monitoring and Assessment (NEAMAP) survey (Kocik et al. 2013). Atlantic sturgeon are frequently sampled during the NEAMAP survey. NEAMAP has been conducting trawl surveys from Cape Cod, Massachusetts to Cape Hatteras, North Carolina in nearshore waters at depths up to 18.3 meters (60 feet) during the fall since 2007 and depths up to 36.6 meters (120 feet) during the spring since 2008 using a spatially stratified random design with a total of 35 strata and 150 stations per survey. The information from this survey can be directly used to calculate minimum swept area population estimates during the fall, which range from 6,980 to 42,160 with coefficients of variation between 0.02 and 0.57 and during the spring, which range from 25,540 to 52,990 with coefficients of variation between 0.27 and 0.65. These are considered minimum estimates because the calculation makes the unlikely assumption that the gear will capture 100% of the sturgeon in the water column along the tow path. Efficiencies less than 100% will result in estimates greater than the minimum. The true efficiency depends on many things including the availability of the species to the survey and the behavior of the species with respect to the gear. True efficiencies much less than 100% are common for most

species. The NEFSC's analysis also calculated estimates based on an assumption of 50% efficiency, which reasonably accounts for the robust, yet not complete sampling of the Atlantic sturgeon, oceanic temporal and spatial ranges, and the documented high rates of encounter with NEAMAP survey gear and Atlantic sturgeon. For this analysis, NMFS has determined that the best available scientific information for the status of Atlantic sturgeon at this time are the population estimates derived from NEAMAP swept area biomass (Kocik et al. 2013) because the estimates are derived directly from empirical data with few assumptions. NMFS has determined that using the median value of the 50% efficiency as the best estimate of the Atlantic sturgeon ocean population is most appropriate at this time. This results in a total population size estimate of 67,776 fish, which is considerably higher than the estimates that were available at the time of listing. This estimate is the best available estimate of Atlantic sturgeon abundance at the time of this analysis. The Commission has begun work on a benchmark assessment for Atlantic sturgeon to be completed in 2014, which would be expected to provide an updated population estimate and stock status. The Commission is currently collecting public submissions of data for use in the assessment: http://www.asmfc.org/uploads/file/pr20AtlSturgeonStockAssmtPrep.pdf.

Atlantic sturgeon from any of the five DPSs could occur in areas where the American lobster fishery operates, however, the species has not been captured in gear targeting American lobster (Stein et al. 2004a, ASMFC 2007, NMFS 2012), thus, this species is not considered further in this EA.

Shortnose Sturgeon

Shortnose sturgeon are benthic fish that mainly occupy the deep channel sections of large rivers. They can be found in rivers along the western Atlantic coast from St. Johns River, Florida (possibly extirpated from this system), to the Saint John River in New Brunswick, Canada. The species is anadromous in the southern portion of its range (i.e., south of Chesapeake Bay), while some northern populations are amphidromous (NMFS 1998b). Since the lobster trap/pot fishery does not operate in or near the rivers where concentrations of shortnose sturgeon are most likely found, it is highly unlikely that the lobster trap/pot fishery will affect shortnose sturgeon.

Atlantic Salmon

The wild populations of Atlantic salmon whose freshwater range occurs in the watersheds from the Androscoggin River northward along the Maine coast to the Dennys River are listed as endangered under the ESA. Juvenile salmon in New England rivers typically migrate to sea in May after a 2 to 3 year period of development in freshwater streams, and remain at sea for 2 winter seasons before returning to their U.S. natal rivers to spawn. Results from a 2001-2003 post-smolt trawl survey in Penobscot Bay and the nearshore waters of the Gulf of Maine indicate that Atlantic salmon post-smolts are prevalent in the upper water column throughout this area in mid to late May. Therefore, commercial fisheries deploying small mesh active gear (pelagic trawls and purse seines within 10-m of the surface) in nearshore waters of the Gulf of Maine may have the potential to incidentally take smolts. However, it is highly unlikely that the lobster trap/pot fishery will affect the Gulf of Maine DPS of Atlantic salmon given that operation of the lobster trap/pot fishery does not occur in or near the rivers where concentrations of Atlantic salmon are likely to be found and lobster trap/pot gear operates in the ocean at or near the bottom rather than near the surface.

Blue Whale
Blue whales do not regularly occur in waters of the U.S. Exclusive Economic Zone (EEZ) (Waring et al. 2002). In the North Atlantic, blue whales are most frequently sighted in the St. Lawrence from April to January (Sears 2002). No blue whales were observed during the Cetacean and Turtle Assessment Program (CETAP) surveys of the mid- and north Atlantic areas of the outer continental shelf (CETAP 1982). Calving for the species occurs in low latitude waters outside of the area where the lobster trap/pot fishery operates. Blue whales feed on euphausiids (krill) (Sears 2002) which are too small to be captured in lobster fishing gear. Given that the species is unlikely to occur in areas where the lobster fishery operates, and given that the operation of the lobster fishery will not affect the availability of blue whale prey or areas where calving and nursing of young occurs, the lobster fishery is not expected to affect blue whales.

Sperm Whale
Sperm whales regularly occur in waters of the U.S. Exclusive Economic Zone (EEZ). However, the distribution of the sperm whale in the U.S. EEZ occurs on the continental shelf edge, over the continental slope, and into mid-ocean regions (Waring et al. 2007). In contrast, the American lobster fishery operates in continental shelf waters. The average depth of sperm whale sightings observed during the CETAP surveys was 1,792m (CETAP 1982). Female sperm whales and young males almost always inhabit waters deeper than 1000m and at latitudes less than 40° N (Whitehead 2002). Sperm whales feed on larger organisms that inhabit the deeper ocean regions (Whitehead 2002). Calving for the species occurs in low latitude waters outside of the area where the American lobster fishery operates. Given that sperm whales are unlikely to occur in areas (based on water depth) where the American lobster fishery operates, and given that the operation of the American lobster fishery will not affect the availability of sperm whale prey or areas where calving and nursing of young occurs, the continued operation of the American lobster fishery is not likely to affect sperm whales.

Hawksbill Sea Turtle
The hawksbill turtle is uncommon in the waters of the continental U.S. Hawksbills prefer coral reefs, such as those found in the Caribbean and Central America. Hawksbills feed primarily on a wide variety of sponges, but also consume bryozoans, coelenterates, and mollusks. The Culebra Archipelago of Puerto Rico contains especially important foraging habitat for hawksbills. Nesting areas in the western North Atlantic include Puerto Rico and the Virgin Islands. There are accounts of hawksbills in south Florida and individuals have been sighted along the east coast as far north as Massachusetts; however, east coast sightings north of Florida are rare (NMFS 2009). Since operation of the lobster trap/pot fishery would not occur in waters that are typically used by hawksbill sea turtles, it is highly unlikely that its operations would affect this turtle species.

Kemp's Ridley Sea Turtle
The Kemp's ridley is one of the least abundant of the world's sea turtle species. In contrast to loggerhead, leatherback, and green sea turtles, which are found in multiple oceans of the world, Kemp's ridleys typically occur only in the Gulf of Mexico and the northwestern Atlantic Ocean (USFWS and NMFS 1992). Foraging areas documented along the U.S. Atlantic coast include Charleston Harbor, Pamlico Sound (Epperly et al. 1995), Chesapeake Bay (Musick and Limpus 1997), Delaware Bay, and Long Island Sound (Morreale and Standora 1993). Adult Kemp's

ridleys are found in the coastal regions of the Gulf of Mexico and southeastern U.S., but are typically rare in the northeastern U.S. waters of the Atlantic (TEWG 2000).

Like other turtle species, the severe decline in the Kemp's ridley population appears to have been heavily influenced by a combination of exploitation of eggs and impacts from fishery interactions. Currently, anthropogenic impacts to the Kemp's ridley population are similar to those discussed above for other sea turtle species. Takes of Kemp's ridley turtles have been recorded by sea sampling coverage in the Northeast otter trawl fishery, pelagic longline fishery, and southeast shrimp and summer flounder bottom trawl fisheries. There is no documentation of Kemp's ridley sea turtles being incidentally taken by the lobster trap/pot fishery, therefore it is unlikely that this operation would affect this turtle species.

Green Sea Turtle

In the western Atlantic, green sea turtles range from Massachusetts to Argentina, including the Gulf of Mexico and Caribbean (Wynne and Schwartz 1999). Green sea turtles occur seasonally in Mid-Atlantic and Northeast waters such as Chesapeake Bay and Long Island Sound (Musick and Limpus 1997; Morreale and Standora 1998; Morreale et al. 2005), which serve as foraging and developmental habitats. As with the other sea turtle species, incidental fishery mortality accounts for a large proportion of annual anthropogenic mortality outside the nesting beaches. Sea sampling coverage in the pelagic driftnet, pelagic longline, southeast shrimp trawl, and summer flounder bottom trawl fisheries has recorded takes of green sea turtles. There is no documentation of green sea turtles being incidentally taken by the lobster trap/pot fishery, therefore this species is unlikely to be affected.

Atlantic Salmon Critical Habitat

Coincident with the June 19, 2009 ESA listing, NMFS designated critical habitat for the endangered GOM DPS of Atlantic salmon (74 FR 29300; June 19, 2009) (Figure 3). Designation of critical habitat is focused on the known primary constituent elements within the occupied areas of a listed species that are deemed essential to the conservation of the species. Within the GOM DPS, the primary constituent elements for Atlantic salmon are: 1) sites for spawning and rearing, and 2) sites for migration (excluding marine migration; although successful marine migration is essential to Atlantic salmon). NMFS was not able to identify the essential features of marine migration and feeding habitat or their specific locations at the time that the critical habitat was designated. While there is potential for lobster fishing activity to occur within estuaries in the GOM DPS of Atlantic Salmon, the placement of lobster traps and trawls is expected to allow adequate passage for migrating salmon. Likewise, the associated fishing activities (i.e. hauling gear and vessel movements) are not expected to alter water chemistry or physical attributes to levels that would affect migration patterns of smolts or adult salmon.

7.3. Potential Impacts to Atlantic Coastal State and Interstate Fisheries

Regulations under all three take reduction plans for Atlantic large whales (which includes humpback whales), harbor porpoises, and bottlenose dolphins have the potential to impact Jonah crab fisheries.

8. REFERENCES

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9.
10. TABLES ANS FIGURES

Table 1. Jonah crab landings from 1990-2013 by state in pounds, ACCSP May 2015. *Landings have been removed for confidential purposes, totals do not include confidential data.

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	Total
1990			1,264,321	6,573	403,843			18,845	480	882,843	13,044	2,589,949
1991			979,250	7,209	194,780			38,040		976,744	2,046	2,198,069
1992			1,487,991	5,448	34,610			37,833	1,040	1,067,826	28	2,634,776
1993		2,000	1,312,751	5,725	50,281			18,548	10,459	1,028,322	64	2,428,150
1994		400	1,294,893	*	63,844		*	22,431	249,150	1,059,321		2,695,421
1995	10		1,048,824	*	*			22,101	39,074	731,518	*	1,905,446
1996	9		1,202,790	1,028	131,260			26,253	331,467	958,031		2,650,838
1997	267		2,693,851	*	169,233		*	20,700	120,069	534,319	*	4,367,857
1998	535		1,118,194	490	*		*	76,792	115,261	843,575	*	2,767,228
1999	1,022		1,739,112	2,925	52,356		*	14,037	757	1,396,757	*	3,414,305
2000	16,806		1,358,571	*	*	*	*	16,446	54,919	225,435	*	2,630,328
2001	6,244		1,507,268	33,210	*	*	*	18,668	111,845	5,535		4,046,509
2002	688		1,667,683	*	223,071		*	18,308	34,763	127,992		2,625,524
2003		*	1,530,595	*	1,279,228		*	22,698	62,426	308,681		3,216,152
2004	570		933,869	93	2,579,162		*	7,209	35,300	906,660		4,463,168
2005	328		3,663,582	*	2,717,849			29,254	11,160	754,594	*	7,180,766
2006	*		3,614,261	2,762	2,299,912			15,545	24,465	752,490	*	6,710,836
2007	*		4,118,477	8,720	2,062,084			80,062	202,898	2,065,799	*	8,538,345
2008	287		4,478,505	12,188	1,482,514		*	115,995	561,386	2,303,482	*	9,097,352
2009	*		4,869,605	11,657	1,103,629		*	38,460	510,642	1,618,121	*	8,624,254
2010	*		5,689,431	18,045	1,075,747	*	*	28,400	968,122	2,922,404		10,872,716
2011	*		5,379,792	92,401	1,096,592	*	*	26,286	69,440	2,540,337	*	9,273,632
2012	2,349		7,540,392	*	556,675		*	68,252	609	3,286,569	*	11,662,595
2013	51,462		10,095,401	*	378,340		344,551	7,803	*	4,397,734		15,912,923
2014	49,998		11,943,076	152,614	332,997	*	404,703	33,456	*	4,130,880	*	17,048,056

Table 2a.. Percent of Jonah crabs below various size thresholds from the Massachusetts Division of Marine Fisheries Jonah crab port sampling program. Percentages are from 6464 Jonah crabs that were measured from 2013-2015.

Carapace Width	%
< 139.7 mm (5.5")	34.8%
<133.4 mm (5.25")	13.6%
<127 mm (5")	2.5%
<120.7 mm (4.75")	0.4%
<114.3mm (4.5")	0.1%
<108 mm (4.25")	<0.1%
<101.6 mm (4")	<0.1%

Table 2b. Percentage of crab by sex in various size thresholds from the Maine Jonah crab sea sampling. This represents 7,131 crabs with a 637/6048, female/male breakdown, from 15 trips, mostly in 2003.

Maine 2003-4	4"	4.25"	4.5"	4.75"	5"
Females under size threshold	27%	41%	65%	84%	96%
Males under size threshold	3%	6%	11%	18%	29%

Table 2c. Percentage of crab by sex in various size threshold from the CFRF sea sampling data conducted by fishermen using commercial vented pots. Fishermen examined 8,392 crabs (962 females and 7428 males) with the results below.

	4"	4.25"	4.5"	4.75"	5"
Females % under size threshold	39%	50%	70%	93%	98%
Male % under size threshold	2%	4%	7%	15%	31%

Table 3. Percentage of Jonah crab and rock crab landed by gear type from 1990-2014, ACCSP May 2015.

Crab (Jonah and Rock) Percent Landings by Year and Gear

Year	Dredge	Hand Line	Long Line	Other	Pots & Traps	Trawls
1990	0.07%	0.00%	0.00%	0.00%	99.71%	0.22%
1991	0.00%	0.00%	0.00%	0.00%	99.65%	0.35%
1992	0.00%	0.00%	0.00%	0.00%	99.24%	0.76%
1993	0.09%	0.00%	0.00%	0.00%	99.54%	0.37%
1994	0.00%	0.00%	0.00%	0.01%	94.43%	5.56%
1995	0.00%	0.00%	0.00%	0.06%	99.38%	0.56%
1996	0.00%	0.00%	0.00%	8.00%	91.62%	0.38%
1997	0.00%	0.00%	0.00%	3.27%	96.16%	0.57%
1998	0.00%	0.01%	0.00%	1.21%	97.43%	1.36%
1999	0.00%	0.00%	0.00%	0.19%	99.45%	0.36%
2000	0.00%	0.01%	0.00%	0.31%	99.57%	0.11%
2001	0.00%	0.01%	0.00%	3.24%	94.19%	2.56%
2002	0.00%	0.00%	0.00%	0.49%	99.43%	0.08%
2003	0.00%	0.00%	0.00%	1.09%	98.75%	0.16%
2004	0.01%	0.09%	0.00%	8.46%	90.91%	0.53%
2005	0.00%	0.52%	1.55%	5.35%	92.57%	0.01%
2006	0.85%	0.04%	0.04%	7.16%	91.86%	0.05%
2007	1.29%	1.49%	0.01%	5.03%	92.04%	0.15%
2008	0.16%	0.22%	0.07%	5.91%	93.55%	0.09%
2009	1.93%	2.53%	0.14%	5.91%	89.26%	0.23%
2010	0.10%	0.31%	0.59%	3.07%	94.75%	1.18%
2011	1.11%	0.15%	0.00%	1.29%	96.50%	0.95%
2012	0.10%	0.07%	0.10%	3.84%	95.44%	0.45%
2013	0.07%	0.05%	0.13%	3.95%	95.04%	0.76%
2014	0.64%	0.08%	0.01%	3.46%	95.47%	0.34%

Table 4. Ex-vessel value for Jonah crab by state 1990-2013, ACCSP May 2015. *values have been removed for confidential purposes.

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	Total
1990			$515,135	$10,765	$90,285			$17,928	$361	$338,163	$22,817	$995,454
1991			$389,357	$10,923	$50,298			$37,212		$384,420	$3,538	$875,748
1992			$600,014	$8,907	$12,713			$32,357	$780	$421,508	$42	$1,076,321
1993		$2,500	$524,833	$9,481	$21,322			$16,949	$8,373	$414,758	$106	$998,322
1994		$500	$556,133	*	$25,162		*	$21,347	$186,863	$447,406		$1,240,749
1995	$25		$648,966	*	*			$20,013	$19,542	$402,856	*	$1,122,410
1996	$4		$662,191	$1,483	$53,917			$23,834	$100,216	$444,389		$1,286,034
1997	$119		$1,317,345	*	$81,268		*	$19,841	$81,803	$244,111	*	$2,132,321
1998	$259		$557,411	$245	*		*	$46,172	$79,388	$376,603	*	$1,359,233
1999	$441		$902,110	$1,465	$21,806		*	$12,367	$450	$590,772	*	$1,650,665
2000	$6,879		$736,339	*	*	*	*	$14,460	$28,875	$97,037	*	$1,581,986
2001	$2,131		$885,463	$41,587	*	*	*	$19,970	$57,960	$2,875		$2,227,714
2002	$413		$946,640	*	$110,515		*	$21,978	$17,910	$63,988		$1,521,534
2003		*	$828,738	*	$570,553		*	$23,471	$36,172	$160,999		$1,631,568
2004	$254		$520,039	*	$1,021,543		*	$6,667	$18,265	$488,253		$2,055,491
2005	$164		$2,017,215	*	$1,098,086			$29,070	$5,310	$376,215	*	$3,536,382
2006	*		$1,792,316	$4,862	$861,116			$15,039	$12,144	$377,213	*	$3,063,353
2007	*		$2,393,498	$6,783	$790,494			$91,570	$89,470	$1,179,259	*	$4,551,219
2008	$118		$2,652,304	$11,654	$577,647		*	$110,645	$233,787	$1,353,852	*	$5,012,196
2009	*		$2,769,169	$13,498	$423,383		*	$48,442	$212,458	$887,638	*	$4,442,500
2010	*		$3,211,302	$24,006	$371,297	*	*	$33,077	$417,980	$1,524,750		$5,653,102
2011	*		$3,648,497	$71,794	$381,960	*	*	$32,479	$27,082	$1,499,969	*	$5,701,619
2012	$1,509		$5,573,252	*	$217,753		*	$57,137	$280	$2,297,708	*	$8,293,585
2013	$36,301		$9,111,004	*	$186,097		$238,406	$5,094	*	$3,179,936		$12,856,754
2014	$37,843		$9,385,514	$115,821	$99,618	*	$289,089	$20,379	*	$3,125,928	*	$13,074,447

Table 5. Crab regulations by state and agency.

	Trap Limit	Trap Restrictions	License Required	Minimum Size	Sex Restrictions	Closed Seasons	Comm Harvest Limit	Recreational License	Rec Harvest Limit	Rec Trap Limit	Landing License	Reporting Requirements
Maine	Lobster Limit	Lobster Traps	Yes	None	None	Dec 30 - Apr 1 in rivers	200 lbs/day or 500 lbs/trip	No - hand harvest; Yes - traps	No	5 traps	Yes; endorsement to the comm. fishing license	Yes; 100% dealer and 10% harvester, tied to lobster reporting
New Hampshire	Lobster Limit (1,200)	Lobster Traps	Yes	None	None	No	No	Yes (if more than 12 taken)	No	5 traps	Yes	Yes, 100% harvester reporting (>1000 lbs/year)
Massachusetts	Lobster Limit	Lobster Traps	Yes	None	No egg bearers	Jan 1 - Apr 30 in state waters	No	No - hand harvest; Yes traps/SCUBA	50 crabs	10 traps	Yes	Yes, 100% dealer and harvester
Rhode Island	No	No	Yes	None	None	No	No	No	No	No		
Connecticut		Lobster Traps	Yes; general comm license	No	No	No	No	No	No	No		Yes
New York	No	Escape panel required	Yes; limited entry	No	No egg bearers	No	No	50/day	50/day	No	No	Yes, 100% dealer and harvester
New Jersey	No	Biodegradable panel required	Yes	3.5" to 5" (varies by hardness)	No egg bearers	Yes	No	Yes	One bushel/day	Yes		
Maryland	No	No	Yes	No	No	No	No	No	No	No		
Virginia	No	No	No	None	No	No	No	No	No	No		
Federal Lobster Permit Holder	Lobster Limit	Lobster Traps	No	None	No	No*	No	No	No	No	N/A	Yes; either VTR or state reporting depending on permits held.
Federal Non-lobster Permit Holder	None	None	No	None	No	No*	No	No	No	No	N/A	No, unless holds more restrictive permit that requires VTR

Figure 1. Picture of a Jonah (left) and rock crab (right).

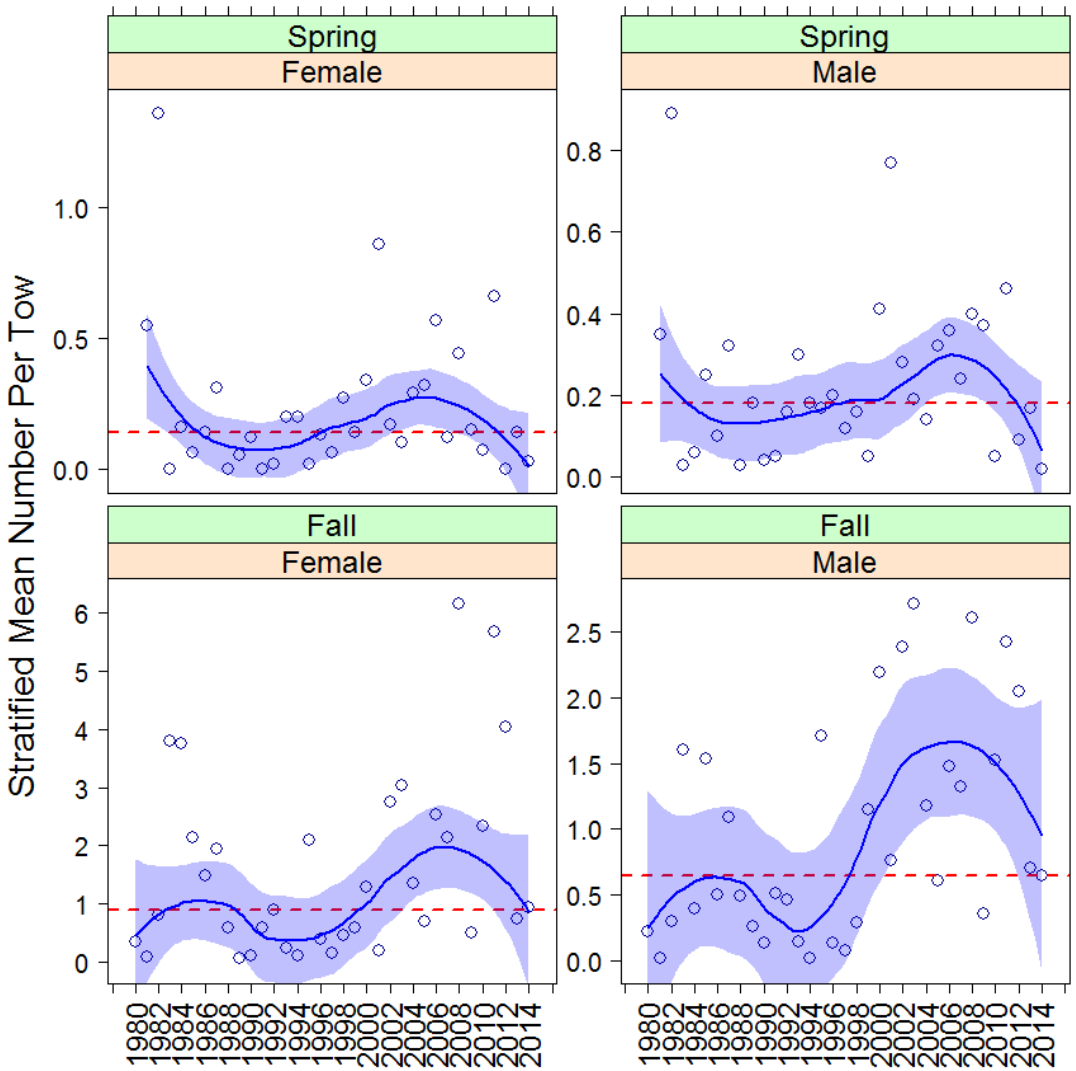

Figure 2. Jonah crab stratified mean number per tow from the Massachusetts Division of Marine Fisheries spring and fall trawl survey indices by sex in the Gulf of Maine. Red, dashed line is the time series median, blue line is a loess fit using family=symmetric and span=0.66. Blue shaded area is approximate 95% confidence interval for the fit.

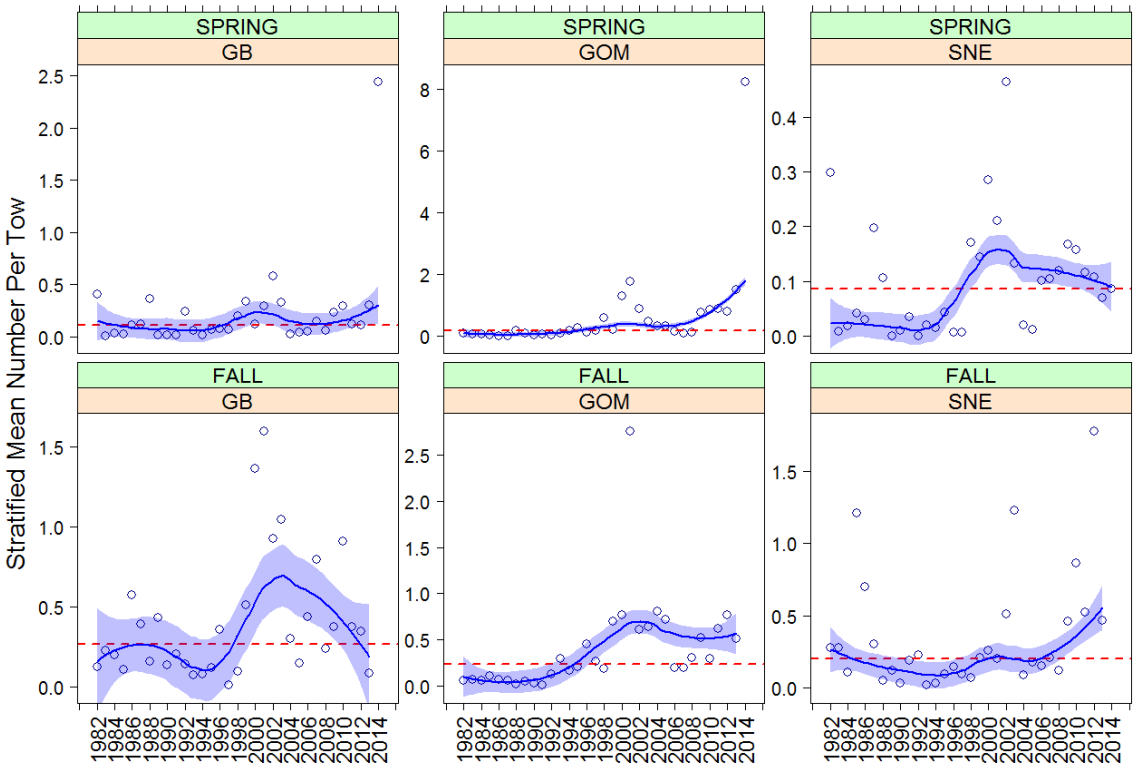

Figure 3. Jonah crab stratified mean number per tow from the National Marine Fisheries Service spring and fall trawl survey indices by sex and region (Georges Bank, Gulf of Maine, and Southern New England). Red, dashed line is the time series median, blue line is a loess fit using family=symmetric and span=0.66. Blue shaded area is approximate 95% confidence interval for the fit.

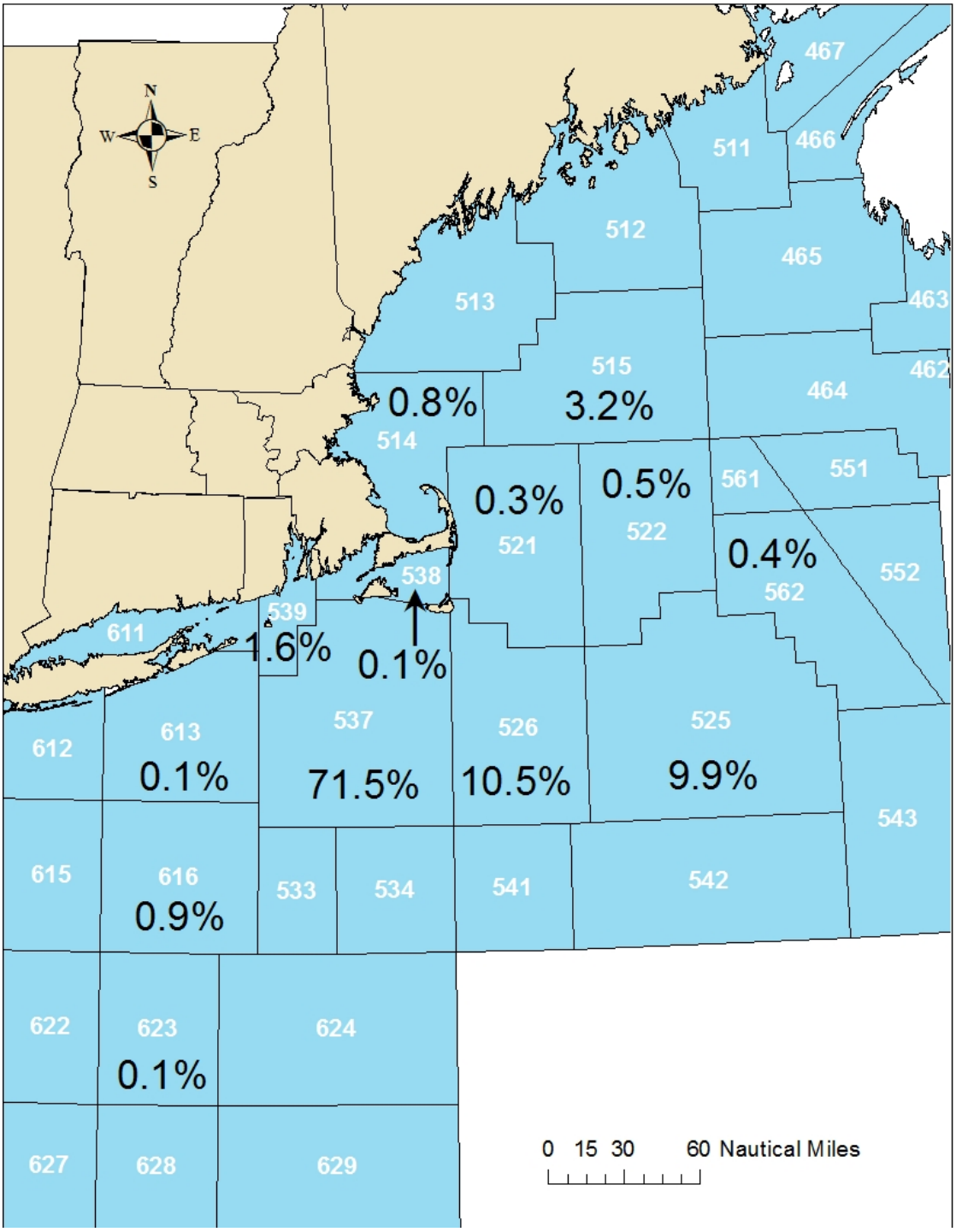

Figure 4. 2012-2014 Massachusetts and Rhode Island Jonah crab landings by NMFS statistical area. Areas with less than 0.1% of landings are omitted (data from NMFS VTR, and MA trip level reporting.

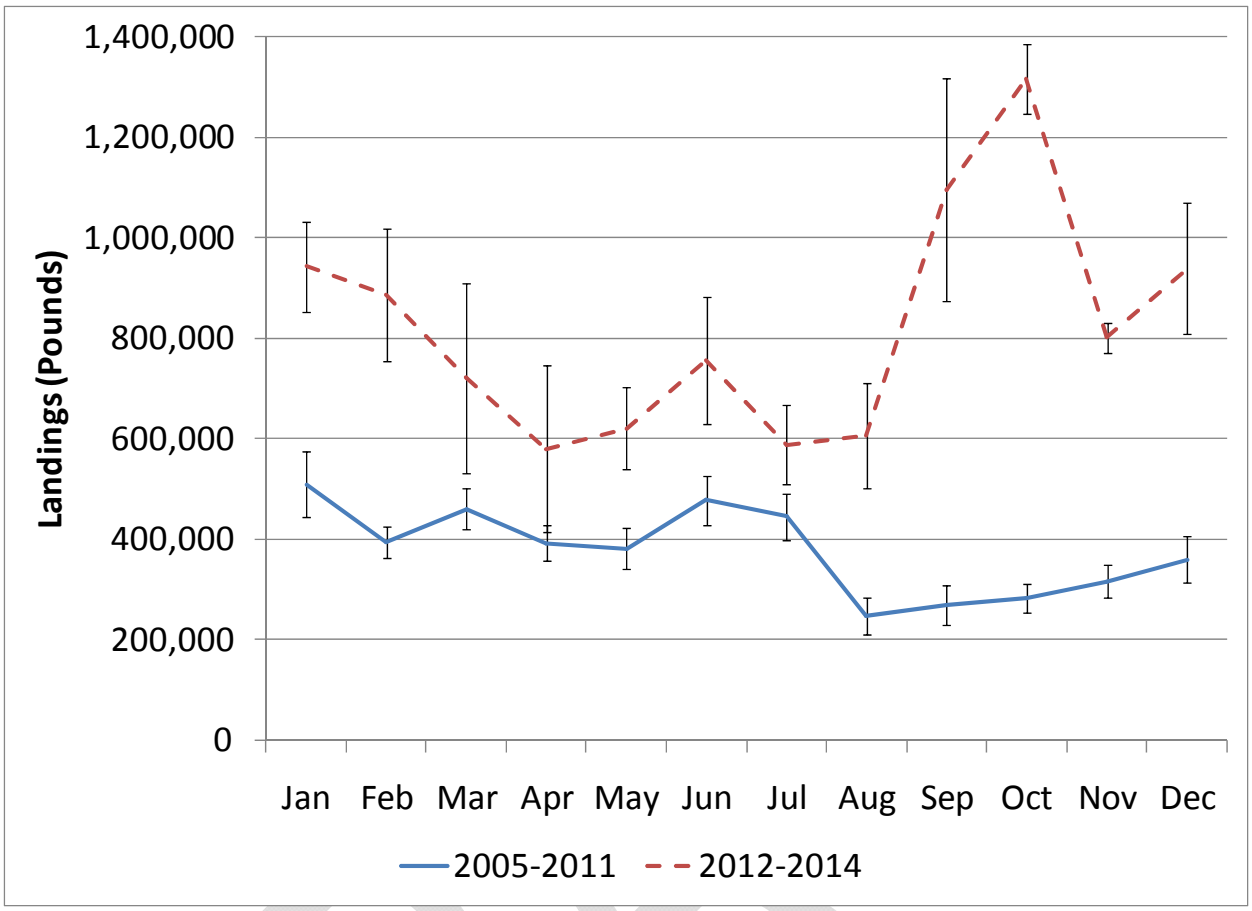

Figure 5. Massachusetts Jonah crab mean landings (±S.E.) by month (from SAFIS dealer reports).

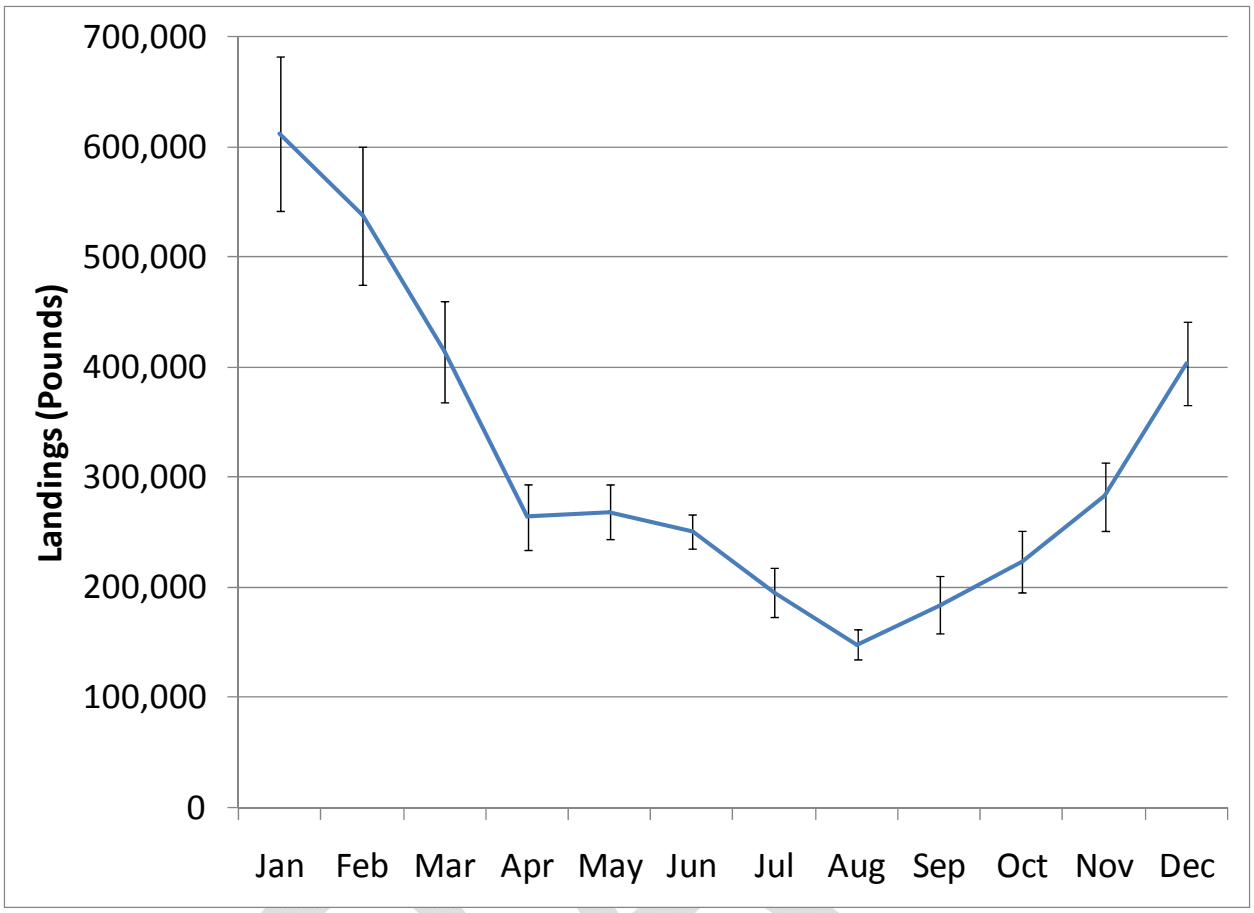

Figure 6. RI Cancer crab landings (±S.E.) by month (data from NMFS VTRs).

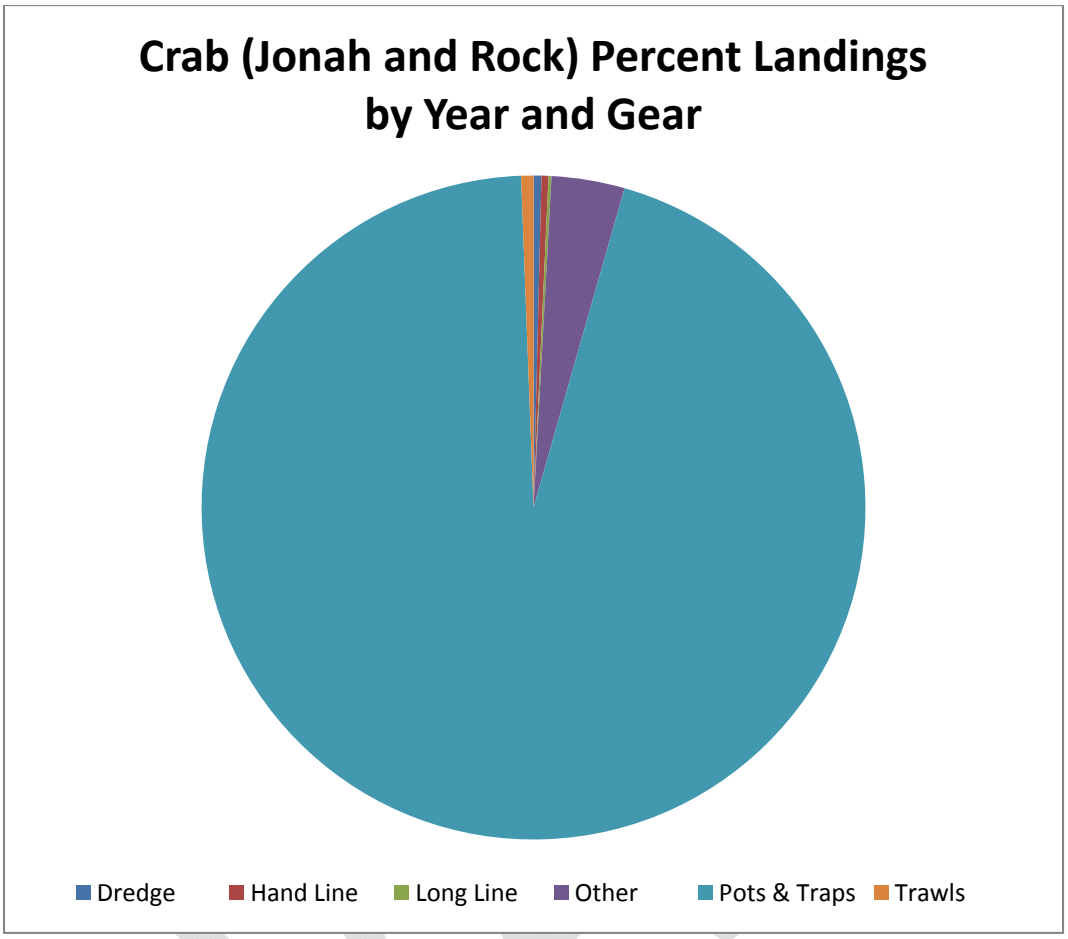

Figure 7. Average percentage of landing caught by gear types from 1990-2014.Values not shown are less than 1%.

Atlantic States Marine Fisheries Commission

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MEMORANDUM

July 21, 2015

To: American Lobster Management Board

From: Megan Ware, FMP Coordinator

RE: Public Hearing Summary for Draft Jonah Crab FMP

The following pages represent a summary of the public hearings conducted by ASMFC for the Draft Jonah Crab Fishery Management Plan. Five states within the management unit held a public hearing: Maine, New Hampshire, Massachusetts, Rhode Island, and Maryland. Approximately 60 individuals attended all the public hearings. A brief summary of the comments received at the public hearings is provided below, followed by detailed summaries for each hearing (pages 3-13).

Since the public comment period does not close until July 24, 2015, a complete summary of the public comments, including letters submitted, will be included in the supplemental materials for the August Board meeting.

Public Hearing Executive Summary

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 but several fishermen preferred harvester reporting since most outlets for Jonah crab are non-dealer related.

Commercial Fishery Permitting

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.

Commercial Fishery 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.

Commercial Fishery 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.

Commercial Fishery Crab Part Retention
Besides Maryland, all states were in agreement that the Jonah crab should be strictly whole crabs. 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.

Commercial Fishery 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.

Commercial Fishery 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.

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.

De Minimis Criteria
Finally, 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 States Marine Fisheries Commission

American Eel Management Board

August 5, 2015
8:00 – 8:45 a.m.
Alexandria, Virginia

Draft Agenda

The times listed are approximate; the order in which these items will be taken is subject to change; other items may be added as necessary.

1.	Welcome/Call to Order (*J. Clark*)	8:00 a.m.
2.	Board Consent • Approval of Agenda • Approval of Proceedings from October 2014	8:00 a.m.
3.	Public Comment	8:05 a.m.
4.	Technical Committee Report (*S. Eyler*) • Review Recommendations on Maine Life Cycle Survey Design	8:15 a.m.
5.	Update on Addendum III Implementation (*M. Waine*)	8:35 a.m.
6.	Elect Vice-Chair (*J. Clark*) **Action**	8:45 a.m.
7.	Other Business/Adjourn	8:45 a.m.

The meeting will be held at the Westin, 400 Courthouse Square, Alexandria, Virginia; 703.253.8600

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 Assumed Chairmanship: 8/15	Technical Committee Chair: Sheila Eyler (USFWS)	Law Enforcement Committee Representative: Cornish
Vice Chair: VACANT	Advisory Panel Chair: Martie Bouw	Previous Board Meeting: 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 the following management changes in January 2014.

- Commercial Glass Eel Fisheries – Pigmented Eel Tolerance
- Commercial Yellow Eel Fisheries – Increase Minimum Size Limit and Gear Restrictions
- Commercial Silver Eel Fisheries – Seasonal Closure

- Recreational Fisheries Measures – Reduction in Bag Limit with Party Charter Boat Exemption

Presentation

- Update of State Implementation of Addendum III by M. Waine

Board Actions for Consideration

- Address any compliance issues if necessary

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

DRAFT PROCEEDINGS OF THE

ATLANTIC STATES MARINE FISHERIES COMMISSION

AMERICAN EEL MANAGEMENT BOARD

Hilton Mystic
Mystic, Connecticut
October 27, 2014

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

TABLE OF CONTENTS

INDEX OF MOTIONS

ATTENDANCE

Board Members

Pat Keliher, ME (AA)
Rep. Walter Kumiega, ME (LA)
Steve Train, ME (GA)
Doug Grout, NH (AA)
Dennis Abbott, NH, proxy for Sen. Watters (LA)
G. Ritchie White, NH (GA)
Dan McKiernan, MA, proxy for P. Diodati (AA)
Rep. Sarah Peake, MA (LA)
William Adler, MA (GA)
Robert Ballou, RI (AA)
Rick Bellavance, RI, proxy for Sen. Sosnowski (LA)
David Borden, RI (GA)
Rep. Craig Miner, CT (LA)
Lance Stewart, CT (GA)
Dave Simpson, CT (AA)
James Gilmore, NY (AA)
Emerson Hasbrouck, NY (GA)
Katherine Heinlein, NY, proxy for Sen. Boyle (LA)
Adam Nowalsky, NJ, proxy for Asm Andrzejczak (LA)
Russ Allen, NJ, proxy for D. Chanda (AA)
Tom Fote, NJ (GA)
Mitchell Feigenbaum, PA, proxy for Rep. Vereb (LA)
Loren Lustig, PA (GA)
Leroy Young, PA, proxy for J. Arway (AA)
John Clark, DE, proxy for D. Saveikis (AA)
Roy Miller, DE (GA)
Bernie Pankowski, DE, proxy for Sen. Venables (LA)
Bill Goldsborough, MD (GA)
Russell Dize, MD, proxy for Sen. Colburn (LA)
Tom O'Connell, MD (AA)
Rob O'Reilly, VA, proxy for J. Bull (AA)
Kyle Schick, VA, proxy for Sen. Stuart (LA)
Catherine Davenport, VA (GA)
Louis Daniel, NC (AA)
Mike Johnson, NC, proxy for Sen. Jenkins (LA)
Sen. Ronnie Cromer, SC (LA)
Ross Self, SC, proxy for R. Boyles, Jr. (AA)
Malcolm Rhodes, SC (GA)
Nancy Addison, GA (GA)
Pat Geer, GA, proxy for Rep. Burns (LA)
Jim Estes, FL, proxy for J. McCawley (AA)
Sherry White, USFWS
Martin Gary, PRFC

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

Ex-Officio Members

Joe Fessenden, Law Enforcement Committee Rep.
Sheila Eyler, Technical Committee Chair
Marty Bouw, Advisory Panel Chair

Staff

Robert Beal
Toni Kerns
Kate Taylor
Mike Waine

Guests

Kelly Denit, NOAA
Chip Lynch, NOAA
Derek Orner, NOAA
Steve Meyers, NOAA
Jack Travelstead, CCA
John Cornish, ME DMR
Lynn Fegley, MD DNR
Brandon Muffley, NJ DFW
Raymond Kane, CHOIR
Darryl Young, Maine Elver Fishermen Assn
Angela Young, MEFA
Jeffrey Pierce, MEFA
Arnold Leo, Town of East Hampton, NY
Bill Sheldon, Woolwich, ME
John Sheldon, Woolwich, ME
John McIntosh, Scarborough, ME
Julia Beaty, Integrated Statistics
Joseph Gordon, PEW

The American Eel Management Board of the Atlantic States Marine Fisheries Commission convened in the Grand Ballroom of The Mystic Hilton, Mystic, Connecticut, Monday morning, October 27, 2014, and was called to order at 11:15 o'clock a.m. by Chairman Thomas O'Connell.

CALL TO ORDER

CHAIRMAN THOMAS O'CONNELL: Good morning, everybody; and welcome to the American Eel Management Board Meeting. My name is Tom O'Connell. I'm a representative for Maryland and will be chairing today's meeting. I will note that given some of the issues that pertain to Maryland; that I may need to step down. If I need to, Bob Beal will come in; but I'm doing to do my best to stay up here for the duration of the day.

APPROVAL OF AGENDA

CHAIRMAN THOMAS O'CONNELL: Everybody should have received an agenda and would ask the board's consent of that agenda. Are there any suggested changes to it? Seeing none; the agenda will stand approved.

APPROVAL OF PROCEEDINGS

CHAIRMAN THOMAS O'CONNELL: We also have our Proceedings from our August meeting. Are there any suggested changes to those Proceedings? Seeing none; our Proceedings from August will stand approved.

DISCUSSION OF CONFLICT OF INTEREST AND FINANCIAL DISCLOSURE POLICY

I'm going to turn it over to Bob Beal, our executive director, who is going to comment on the Conflict of Interest Policy that was approved at the August meeting.

EXECUTIVE DIRECTOR ROBERT E. BEAL: As the chairman mentioned, this is our first meeting of the full coast after the new Conflict of Interest and Financial Disclosure Policy was approved by the Policy Board at the August meeting. Part of that was that all the legislative and governors' appointees fill out disclosure forms on their financial interests and involvement in fishing and the NGO community.

I think all of the commissioners that are participating in this board have done that. Those forms are available on the ASMFC Website as well as in the notebook out in the hall. If anyone wants to review the financial disclosure forms of the commissioners, those are available for review. I think there is only one individual, Mitchell Feigenbaum, that has indicated that he processes more than 10 percent of the coast-wide harvest of American eel.

What means is that under the new procedures, Mitch will be able to fully participate in the dialogue of this board and ask and answer questions and comment on motions. However, he will not be able to make motions, second motions or participate in the state caucus prior to a vote.

That is the new procedure that has been identified; and I think this is the first board that it has impacted this morning. The only other procedural issue is meeting-specific proxies aren't able to vote on any final actions that are being considered by this board. If we get those, we can identify those individuals.

CHAIRMAN O'CONNELL: Any questions related to that? Mitch.

MR. MITCHELL FEIGENBAUM: I just had one question; and that is Bob mentioned that commissioners who were recused cannot caucus or vote. I'm certain that at least in the legislative and governors' appointees discussions about the issue it was fairly widely accepted that commissioners are free to confer with guests or folks in the back or really anyone that they choose during caucuses.

We've seen over the years many times where folks at the table refer to a colleague or some other person in the back. Recognizing that during the time that there is a caucus on a vote, I will in fact step back from the table; but I just was wondering if we needed to clarify the fact

that commissioners are free to seek advice, guidance, opinions, counsel from pretty much anyone they want. Is that in fact the policy; and if not, I would suggest that it should be.

EXECUTIVE DIRECTOR BEAL: The commission doesn't have a policy on who the commissioners can seek guidance from during a caucus or during any of the deliberations of the commission. That is up to the individual commissioner. There have been instances when individuals have approached commissioners at the board during a caucus; and I think the commissioners have not necessarily always appreciated that.

I think that is not the position of the public to approach commissioners during a caucus. If the commissioner gets up and seeks guidance or counsel, I think that is appropriate. It seems to be maybe not desirable for the public to come to the table and approach commissioners during a caucus.

CHAIRMAN O'CONNELL: Any other questions? Craig.

REPRESENTATIVE CRAIG A. MINER: As I follow this, a commissioner would not be barred from participating in that conversation away from the table even if they were prohibited from the vote based on their ownership?

EXECUTIVE DIRECTOR BEAL: I'm not sure I understand your question, Craig; is it that you can go to the audience and talk to your fellow commissioners or is it discussion with audience members?

REPRESENTATIVE MINER: Well, I think the point that Mitchell was making to the commission was that it seems like there is a different – and I don't want to speak for him; but it seems like there is a different threshold for a commissioner who may have an ownership level that they've declared. I don't remember exactly what you said with regard to this new rule; but it seemed to me that what you were saying was that the individual could participate in the conversation here, couldn't vote and couldn't participate in the deliberations of the caucus prior to the vote.

The scenario that I think Mitchell was bringing up was that there are occasions when someone actually might leave the table, go to the audience and ask a question. I don't know if that is so or not so; but I thought your response was that we don't restrict someone from doing that prior to a vote as part of their caucus. In this case I think the rule for a commissioner would be different or am I wrong?

EXECUTIVE DIRECTOR BEAL: Well, I'm not sure I still understand the nuance that you're speaking of. It sounds like if a commissioner wants to go to an audience member and ask them questions prior to a caucus; I think that is appropriate.

I think if the three commissioners or the commissioners that are eligible for the caucus put their heads together before a vote, be it one, two or three, depending on recusals and attendance – if there is an individual that has an identified conflict of interest, he or she should not participate in that state-specific discussion prior to a vote. It would be best if they removed themselves from the table and let the remaining commissioners decide how they wanted to vote and then come back to the table once the vote is cast.

REPRESENTATIVE MINER: Thank you; so from that I'm taking that individual would then still be out of bounds no matter where they are in terms of the remaining caucus members seeking out advice?

EXECUTIVE DIRECTOR BEAL: Now I think I get the nuance. Let's use the example of the real world we're in right now. If Leroy wanted to know Mitch's opinion on how he should vote before a vote and Leroy wanted to seek that out from Mitch, I think that is up to the commissioner or that's up to Leroy, for example. The policy did not go into that level of detail.

PUBLIC COMMENT

CHAIRMAN O'CONNELL: All right, moving forward we've got a public comment period. Anybody that wants to provide a brief comment to the board on items that are not on the addendum? As we go through the deliberation on the addendum, if time allows we may seek public comment; but recognizing that we've already had extensive comment, we may not either. Anybody want to speak on something that is not on the addendum? Yes, if you'd come up, sir, and introduce yourself and your affiliation, please.

MR. JEFFREY PIERCE: My name is Jeffrey Pierce. I'm with the Maine Elver Fishermen's Association. I was just asking for some consideration today on Maine staying status quo. We've done a tremendous job in cutting gear reductions and licensing reductions over the years.

CHAIRMAN O'CONNELL: Excuse me, sir, it sounds like you're going into an item that is in Addendum IV. Can you clarify to me how this is not related to Draft Addendum IV?

MR. PIERCE: I was going to discuss with all the cuts we've taken, turbine mortality is considered the number one threat to the species. I don't see it on the agenda.

CHAIRMAN O'CONNELL: Okay, if you want to make a brief comment related to turbine mortality; that's fine.

MR. PIERCE: At the last meeting in August we had handed out a thing requesting for turbine mortality to be put on the agenda or outward migration. U.S. Fish and Wildlife cites this to be the biggest problem for American eel. The fishermen seem to taking it on the back; and I see nothing happing on turbine mortality. We would like that to be an agenda item or considered.

CHAIRMAN O'CONNELL: For today?

MR. PIERCE: If possible. We did request it be put on the agenda at the August meeting.

CHAIRMAN O'CONNELL: Well, let's see how the meeting goes today; and if time allows, we can have a brief conversation on that under other business. At this point we understand the issues related to turbine mortality; and we've been working with the standing bodies to try to advocate those issues back in our states. I know in Maryland there is a lot of conversation related to some of the FERC relicensing of some of the major dams in Maryland. If time allows at the end of the meeting, we'll allow a brief conversation to see if the board wants to take this issue up in a different manner at this time; okay?

MR. PIERCE: Thank you for your consideration.

CHAIRMAN O'CONNELL: Anybody else from the public that would like to comment at this time? Seeing none; we're going to go into other parts of the agenda.

DISCUSSION OF NORTH CAROLINA'S PROPOSED ADDENDUM III REGULATIONS

CHAIRMAN O'CONNELL: You will see that Item Number 4 relates to a proposal from North Carolina. I think, Louis, you're going to present that proposal to the board.

DR. LOUIS B. DANIEL, III: Hopefully, this will be fairly simple. Kate has done a good job sort of summarizing it in the three bulleted points on the thing; and I'm just going to go over it briefly. In Addendum III there was a requirement for a ½ by ½ inch mesh requirement. What North Carolina has had for years is just have a ½ by 1 inch four-inch escape panel; and the pot can be constructed of 1/16th, 1/32nd, 1/64th inch mesh.

What we wanted to do go back and go with the ½ by ½ inch pot. Some believe that may be less restrictive than what we had in place prior to Addendum III. Based on some of the discussions I've heard is that you probably get as good a culling in a full ½ by ½ inch pot as you do if you have 1/32nd inch pot with one

panel; but a lot of it depends on where the panel is actually located.

What we wanted to do was we'd move forward with rulemaking to go ahead and codify the rule in Addendum III to go with the half by half; and that is when we were informed that we were not supposed to become less restrictive than we were when the addendum was approved. I think you could argue either way.

If it is less restrictive or equal to the – I mean, if it is equal to the current conditions required in Addendum III or whether it is less restrictive, I don't know that it really is less restrictive. I had a talk with my technical committee representative, who is our chairman to the advisory panel. They like the ½ by 1-inch escape panels; and what it would be my intent to do would be to require those panels – allow the fishermen to use those panels and maybe even proclamate requiring those panels if we run into a concern. My hope was to be able to continue with our rule-making process, go with the ½ by ½ inch panels, which is required in Addendum III and then move on.

TECHNICAL COMMITTEE REPORT

CHAIRMAN O'CONNELL: It is my understanding, Sheila, that the technical committee has not had a chance to review this proposal; but if not, do you have any thoughts you would want to share with the board?

MS. SHEILA EYLER: No, we have not reviewed this proposal and we have no recommendation for the board.

CHAIRMAN O'CONNELL: All right, board discussion on North Carolina's proposal? Rob.

MR. ROB O'REILLY: I just know that in I think it was 1995 our eel harvesters approached us and made the request to the half by one inch. Although I don't know of any study that shows the effectiveness of the half by half versus half by one; they were certainly were concerned about having too many small eels.

Now, again, there is no study involved; but that has been the case in Virginia since about 1995. On the other hand, I know that if the technical committee hasn't looked at this, it is certainly something that would have been status quo for North Carolina had it been in effect at the time Addendum III measures were adopted.

CHAIRMAN O'CONNELL: Thanks for that perspective, Rob. Mitch.

MR. FEIGENBAUM: It seems fairly simple that if at present North Carolina fishermen in any significant number are in fact using a smaller mesh than half by half; then by going to the half by half, they're going to become more conservative, in which case letting them take away the escape panel seems to be a fair approach that would probably be somewhat neutral – you know, somewhat balance in terms of the overall take.

On the other hand, if the technical committee assesses the situation and finds out that 99 percent of the fishermen are at half by half already; then all that is really going to happen from this request is taking away the panel, which would then be less conservative. That is the one piece of information that I'd be curious to hear; how many people are under the half by half presently. I hope that was clear.

MR. G. RITCHIE WHITE: I guess I'm a little confused. Is this not a request for conservation equivalency? If that is the case, the normal process would be to go to the technical committee first and then to the board. Am I missing something in that?

CHAIRMAN O'CONNELL: I'm not sure if this viewed as conservation equivalency or not; but based upon the limited comment already, it seems like the board could be better informed if the technical committee had a chance to review it. I was going to ask Louis as to the timing that you need this decision?

DR. DANIEL: Well, I didn't realize we had made a goof. If we had been compliant with Addendum III with the ½ by ½ inch pot, we wouldn't be here. Again, the question is – and I

understand Mitch's question; I don't know what percentage of our potters have less than the ½ by ½ with the 1 by ½ inch panel. I would imagine most of them are fishing half. Marty might know.

We're in the process of rulemaking to implement this; and so it has already gone through public hearings and various other things. I'm kind of in a scrape. If I can't do this, I'm not exactly sure what I do. We can't go back and modify it without having to start the process all over again; and that will be another year and a half. I really don't think it is – I think it is conservation neutral.

Like I said, we have no problem encouraging the escape panels for those that are concerned about having smaller eels and really wouldn't even have trouble proclamating the required. I would like to talk more with Marty about that and talk with my fishermen; but if they're in agreement, we could maintain the ½ by 1 inch panel down the road. I kind of need something quickly. I'm sorry, that was my fault.

I think it was Kate discovered it that we had done a little bit of a misstep; but it is kind of strange that you're held to more restrictive standard because you were more restrictive; and then when plan comes out and you want to be compliant with it, you can't without board approval. I'd sure appreciate your support in this request.

CHAIRMAN O'CONNELL: All right, Marty, I saw you nodding; can you provide a little information as to how many guys may already be using the half by half inch?

MR. MARIUS "MARTY" BOUW: The law has been an inch by half in North Carolina for quite a while. Those had those four-inches patches put on the wrong side. They put them on the bottom end instead of the top end, which there was no requirement where they put the patches. The other problem, of course, you're going to get is North Carolina produces a lot of male small eels that are about 12 inches, 13 inches in size. They will escape out of the 1 by half. They will not escape by half by half. What you're going to create is a lot of the males that actually need to go out; they become half silver in the fall; they will not escape. We have no market for it; we can't buy them because there is no market for those eels. Really, the fisherman is wasting his in fishing those eels. I don't know how many people fish half by half. I haven't seen anybody that fishes less than half by half in North Carolina.

MR. JOHN CLARK: Between the slide and what Marty just said; that answered a lot of my questions. I was just curious as to whether any escape vent studies have been done. It just seems that from what Marty said there; that you definitely will catch more small eels with the half by half inch other than the one by half inch.

MR. DAVID SIMPSON: I guess I just wanted to make sure I was remembering correctly were we one year into a three phase-in period for this? I raised my hand before Louis explained how deep they are into a rule-making process; but these are the kinds of things we want to hear from the technical committee on before we make a decision; at least I do.

REPRESENTATIVE WALTER KUMIEGA, III: What if we approved this for the coming year pending technical committee review, for next October or something, where they can continue with the process and hopefully come up with something that is okay and we'd have plenty of time for review for 2016. If the technical committee doesn't like what North Carolina comes up with, we can just do it for one year.

CHAIRMAN O'CONNELL: That is going to be up to the board. In listening to some of the feedback in Maryland in regards to mesh size changes; it requires an investment and different gear. If we allow this one year and then decide not to; it is going to be a lot of potential investment losses. Louis.

DR. DANIEL: Well, the requirement is a half by half; is anybody more restrictive than that?

CHAIRMAN O'CONNELL: Kate is saying yes; Georgia, at least.

DR. DANIEL: I'm perfectly happy with a one-year reprieve and then be able to work with Marty and the industry to come up with the addition of that panel; but is everybody going to have escape panels in their pots, too? If I'm the only one; that's fine, because we had it before; but that is something we could work on and report back.

CHAIRMAN O'CONNELL: I think one of the struggles of the board is later this afternoon we're going to be looking at Draft Addendum IV for which we're being asked to reduce harvest. I think that is the question that I've been hearing from several board members today as to whether or not this proposal will result in an increased harvest or not at a time that we're trying to decrease harvest. I've got Rob and Mitch; but I think after those two comments, it would probably be good to make a motion and see how the board votes on this issue.

MR. O'REILLY: Mr. Chairman, my comment was only to Dr. Daniel that they wouldn't be the only one. Again, in 1995 we implemented the panel, the inch by a half, but also have half by half in the pots; so I just wanted to just respond to that.

MR. FEIGENBAUM: Mr. Chairman, I just want to point out that I believe Representative Vereb and certainly in some of our communications to the commissioners over the last two meetings; I've pointed out that the relationship between the mesh and the size limit is not working out perfectly.

We have been pretty candid in our state as well as telling commissioners or officials in other states that there are still a lot of eels that are being harvested below the limit. Maybe I shouldn't say a lot, but there are eels being harvested below the size limit that are nonetheless coming from the half by half mesh.

It just raises the point that as a management measure for the future we need to try to tighten this up and make sure that we have a regulation in place that matches the conditions on the ground. If I was in the position to make motions, which I'm not, I would be happy to make a motion to extend the North Carolina the following year – you know, an extra year to resolve this.

I would also be suggesting that North Carolina, just as the chairman suggested that North Carolina takes up the issue with the industry as well as with the technical committee with the thought being that at the end of the day the goal should really be even broader than just what is North Carolina's rule going be.

It is not part of Addendum IV so we can't go far astray on that issue today. There hasn't been public comment; but in a conservation neutral or even conservation positive way, I think we can work on this issue of mesh sizes and size limits and have a more effective management measure. I can't make that motion and I can't vote on that motion; but if someone did make that motion and I was allowed to vote, I'd be voting for it. All I can do is offer my opinion; but I would urge people to follow that approach.

CHAIRMAN O'CONNELL: Louis, do you want to make a motion?

DR. DANIEL: I'd rather Mitch make it, but I'll make it**. I'll move that the North Carolina proposal be approved for one year.**

CHAIRMAN O'CONNELL: Seconded by Loren. We've got a motion and a second by Loren to approve North Carolina's proposal for one year. Deliberation on the motion? I think we've already heard a lot of the different perspectives on it. Is everybody clear on what the motion is? Emerson.

MR. EMERSON C. HASBROUCK: I have a question on the slide that was just up there relative to I think it was 7 percent retention with 1 by ½ and 13 percent half by half for eels. Is that significantly different; is there a statistical significance there between those two? I mean just because one is 7 percent and one is 13 percent, there may not be any statistical significance there.

CHAIRMAN O'CONNELL: I don't know if Kate or Sheila could answer that question.

MS. KATE TAYLOR: That was an analysis that was provided by North Carolina and was included in Draft Addendum III. I would have to go back and check with the report if there was a statistical significance in that difference, but I can get back to you on that.

CHAIRMAN O'CONNELL: Dennis, do you want to speak in favor or against the motion?

MR. DENNIS ABBOTT: I think just a question. I think it just relates to the answer; but I was going to ask if this business of a 13 percent reduction or a 7 percent reduction was reviewed by the technical committee. It obviously hasn't so that influences I think my decision-making.

CHAIRMAN O'CONNELL: Any other comments on the motion? Bob.

MR. ROBERT BALLOU: Mr. Chairman, just so I understand the intent and upshot of this motion; if it were to be approved, it would allow North Carolina to move forward with a change to its regulations to enact a ½ by ½ inch regulation, which would be consistent with the standard set forth in the addendum.

As such, I feel comfortable approving it for that reason. I understand currently that would be a less conservative approach than what you have now, but I think from an equity and fairness standpoint I'm comfortable with the approach. Thank you.

DR. DANIEL: At my peril I will speak again. The size limit is nine inches; so I don't know that we're seeing a lot of undersized eels in either of the two panels, to get to Emerson's comment. Again, my intent would be to go home and find out how the industry would like to promote this. I have no problem going with the culling panel, Marty, and requiring that through proclamation and that would maintain our compliance.

I just need the time to do it; and this year would give me that time to do it. In terms of what we're getting ready to do in Addendum IV, I'm assuming that we're all going to go home with quotas. Once we catch our quota, we're going to have to close, so it is not going to result in more or less harvest above and beyond our quota. Thank you for your support on this motion.

CHAIRMAN O'CONNELL: John, do you want to speak in favor or against the motion?

MR. CLARK: More of a question, Mr. Chair. I was just curious as to if this is approved and North Carolina eelers go through the expense of changing their pots; how are we going to come back next year and tell them it was just a mistake and we want you to change back to the escape panel. Even so we're saying for one year, I think if this is approved it will be permanent. Thank you.

MR. O'REILLY: I'm in favor of the motion but I also would hope that when the technical committee looks at the information, this idea of statistical significance can be looked at; but at the same time it would good to know why exactly the recommendation was to maintain management measures that were in place even though they were more restrictive than those that were advance by Addendum III. I would supposed part of that might be a landings' issue, to keep landings from increasing, but I don't know that. It would be good to know that response when the technical committee goes through this deliberation.

MS. TAYLOR: I can briefly speak to the PDT's deliberation in the development of Draft Addendum III. We did look at that issue. It was consistent with the initial FMP. Also in recognition of the fact that the modifications to gear can be costly, the PDT recommended maintaining that same language from the FMP that states that have more conservative measures be required to maintain those; and we'd basically with the half by half inch mesh requirement bring everyone up to a baseline while providing that little bit of conservation benefit. The PDT had discussions where they did not want to see all states revert down to the

half by half and potentially lose some of that conservation benefit that was gained through the addendum.

MR. ADAM NOWALSKY: I think both of the last speakers touched on the two issues I was going to address. One is that if we're going to approve this motion, it is not going to be for just one year. By having that in here, we're just leaving ourselves more work for the future, quite frankly. I think it would behoove the board to remove that moving forward.

Secondly would be what was previously in the addendum; I would encourage the board to revisit that. If we're going to say half by half is good enough, there is no point in leaving in the stipulation that if you're currently more conservative; that you have to stay there. We're basically setting a precedent here that is saying we're moving forward with saying everybody should be at half by half; and this board should find some way to move forward, again, so we don't have to take up our time taking these up individually moving forward.

CHAIRMAN O'CONNELL: Adam, was that a suggestion to amend to remove for one year or not?

MR. NOWALSKY: I'm not going to make an amendment to the motion, Mr. Chairman; but I'm going to leave that low-hanging fruit out there.

MR. PATRICK C. KELIHER: Mr. Chairman, I think I can support this; but I do have two questions before we vote. I think Marty said that some of these pots, people are actually putting these escape panels on the bottom of the pots. Is North Carolina going to deal with that through the regulations to make sure that the escape panels can actually be used as escape panels?

If they're on the bottom, I think the efficiency is going to be impacted. Two, to several of the comments that were just made, specifically Adam's, can North Carolina, if we do this for one year, are they going to be able to – and we reverse the decision, are you going to be able to make a change and ensure this isn't a two-year proposal.

DR. DANIEL: Yes; I think as Marty said, I think a lot of the pots are already half by half; so requiring an escape panel be incorporated into the body of the pot in a certain location where it is effective, I could implement in 48 hours through proclamation if that is what was required to maintain compliance with the plan.

CHAIRMAN O'CONNELL: Marty wanted to say something, recognizing that the technical committee and AP hasn't had a chance to look at this go ahead.

MR. BOUW: The question I have to all of you is why would you catch something you can't sell?

MR. RUSSEL DIZE: Mr. Chairman, I support this motion. The buyers control what you're going to sell. You can have all the small eels you want and you can't sell it. For instance, if you go to spiny dogfish, we've got loads of spiny dogfish but we can't sell it. We can't make anything with it. The fishing industry is controlled by what the buyers will buy.

Marty can say, well, they're there; but if he won't buy it and if he won't give any price for it, you won't catch it. For instance, a friend of mine, Tommie Ludden, didn't go eeling this fall because the price of eels was low. He went oystering. That is what happens in the market. I don't see why North Carolina has to be more restrictive than Maryland or anyone else. If it is half by half, I think that is what it ought to be, half by half. You should be able to go to that. I just don't think it is fair to make them be at a higher gauge of wire. Thank you.

MR. CLARK: Over the past few board meetings we've had about eel, we keep coming back to let's follow the technical committee recommendations on these things. This was in the previous addendum that we passed. It went through the technical committee; it went through the PDT review to keep in that more restrictive language; and we've done that. As I said, we keep hearing people saying we should follow

technical advice; and yet time and time again with this eel plan we're talking about doing things that are very different. Just something to consider there.

CHAIRMAN O'CONNELL: Is there anybody that has not spoken on the motion that would like to speak? All right, I'll allow for a 30-second caucus on the motion.

(Whereupon, a caucus was held.)

CHAIRMAN O'CONNELL: **Okay, all those in favor please raise your right hand; all those opposed please raise your right hand; any abstentions; null votes. The motion carries**. One follow-up question given the board has passed this motion for clarification going forward; what would the board like to see in one year to evaluate this plan? Do you want the technical committee just to review the proposal; do you want North Carolina to submit information after this year? Any suggestions on that so we give some direction to North Carolina and the staff? Dave.

MR. SIMPSON: Yes; I think get that input from the technical committee. If there is more information that North Carolina can or wants to provide, great; but I'd like to hear from the technical committee on it.

CHAIRMAN O'CONNELL: Any objection to that? Doug.

MR. DOUGLAS E. GROUT: This discussion that we've had here and we've had in previous meetings have left me a little concerned here that maybe we didn't pick the right mesh size here for a nine-inch size limit. The comment that we received both at the AP and some of the commissioners here was that this was an appropriate size limit. Didn't we have an option of half inch by one inch in the plan originally; and we chose half inch by half inch.

At least I made the decision because I heard half by half inch is the best one for a nine-inch size limit. This is making me a little concerned that maybe we should have gone with the half inch by one inch. The point of me making that is I'd like to have the technical committee comment on what is the appropriate mesh size for a nine-inch minimum size limit.

CHAIRMAN O'CONNELL: Kate is going to provide a response; but if there is that question out there, perhaps when the technical committee reviews North Carolina's proposal they can include that evaluation and bring it back to the board as well.

MS. TAYLOR: We did look at the evaluation of that; and the half by half was a little bit lower than a nine-inch minimum size. The board was made aware of that and had discussions on a tolerance for undersized eels at the last two meetings. I think it is an $11/12^{th}$ maybe. It is very close to nine inches, but it us under nine inches that is associated with the half by half inch mesh.

CHAIRMAN O'CONNELL: We'll do that and we'll ask the technical committee to reexamine that if there are some concerns related to that objective being met with the half by half when they look at the North Carolina proposal.

TECHNICAL COMMITTEE REPORT

CHAIRMAN O'CONNELL: Next on the agenda is the technical committee report and just to kind of manage our expectations for today; we're going to try to break at 12:30 for lunch.

Ideally we were hoping to get through the working group recommendations so everybody could have that before them as we break. We'll see if we can get that far. It is taking a little bit longer with some of the earlier agenda items. Before I turn it over to Sheila in regard to the technical committee report, I just want to recall that we had a lengthy meeting at the last August meeting related to yellow eels.

We ended that meeting with the board asking that a working group be formed to look at options that would achieve the technical committee's recommendations for yellow eels and also for glass eels. There was some discussion about a discrepancy in Draft

Addendum IV as to what that baseline for a reduction shall be.

Should it be based upon landings in 2010 given that was the last assessment? Should it be based upon the '98 to 2010 average landings? To offer clarity to the working group, the technical committee was tasked with clarifying what baseline period the reduction shall be made off of. Sheila is going to report on that. There was also the issue related to the multiple species of eels that may be encountered. I'm going to turn it over to Sheila and she is going to provide us the foundation of information for our discussions later this afternoon.

MS. EYLER: Tom gave a good overview of the information that we were tasked with. We had to look at the quota recommendations from the stock assessment; the identification of glass eels if we have confusion with other species; and finally a review of Dr. Cadrin's white paper that was given out at the last board meeting.

We will start with quota recommendations. The technical committee met earlier in September and we discussed the recommended quotas. The technical committee continues to recommend that the quota be an average of landings from 1998 to 2010 for both life states of the yellow and glass eel fishery. The time period was considered for the entire stock assessment. It also includes some variability in the fishery, which you wouldn't get if you just picked one year out of that time series.

The technical committee also recommends a reduction from those average landings. The average landings for yellow eels during that time period would be 907,669 pounds. For glass eels it would 5,293 pounds. When the technical committee was asked whether or not we had a recommendation for how much reduction should be taken from that level; the stock assessment did not identify a reduction amount.

We have no amount that we can tell you that would ensure benefits and rebuilding of the fishery stock. However, looking at the variability in the harvest from 1998 to 2010 in the yellow eel fishery; a coefficient of variation, a CV, was assigned to those values. It considered a 12 percent reduction from the average landings would be what we would consider a measurable reduction in the fishery.

This slide shows the harvest landings from 1998 to 2010 in the blue bars; and then the more recent landings in the red bars. The technical committee wants you to consider the average landings from 1998 to 2010; and that is indicated by the black bar all the way on the right. With a 12 percent reduction; that would ensure that the fishery is reduced from most years of harvest between 1998 and 2010; and that would be down to 798,750 pounds.

When looking at the glass eel fishery, we used the same analysis, looking at the variation in harvest from 1998 to 2010. That analysis showed that a 70 percent reduction would be necessary to achieve the same kind of measurable results in fishery harvest. However, the technical committee looked at that and felt that was probably unnecessary because we could not ensure that level of reduction would result in stock rebuilding; and that we thought it was more appropriate that the glass eel reduction should be considered something similar to the yellow eel reduction, which would be 12 percent again.

This slide just indicates again the harvest for glass eels from 1998 to 2010 in the blue bars. The red bars are the more recent landings. The average from 1998 to 2010 is 5,293 pounds; and that is indicated in the black bar. Finally, a 12 percent reduction from that would 4,658 pounds indicated in the green bar.

Moving on to identification of glass eels; there was a question at the last board meeting whether or not there may be some other eel species besides American eels being collected in our young-of-the-year surveys. The most significant concern would be the speckled worm eel, which has a glass eel phase that may be confused with the American eel glass eel phase.

It appears that the issue might be most significant from North Carolina and south down to Florida. However, the North Carolina survey

at the Beaufort Bridge Net Survey indicates all species collected are all fish collected to species so there should be no confusion between American eels and speckled worm eels in that survey.

In Florida all glass eels are also identified and they do collect speckled work eels; and those are removed from the analysis when they do they do their young-of-the-year survey. In Georgia as part of Addendum III, their annual assessment is now on yellow eels, so there is no confusion there with the speckled worm eel in that survey.

Finally, in South Carolina, their surveys are conducted about 40 kilometers upstream; and the technical committee feels that it is likely that speckled worm eels are not involved in those collections; but the state of South Carolina has not actually assessed whether those eels are in the young-of-the-year American eel collections are not. They will look at that in the future; but we don't think this is a significant issue.

In the future we will also consider looking at our northern collections of young-of-the-year surveys to see if they might be in states north of North Carolina. Likely with ocean conditions warming, we might see that population of speckled worm eels become more popular in the northern states. We will just keep an eye on that, but we don't think that this a significant issue at this time for the young-of-the-year surveys.

Finally, at the last board meeting Dr. Cadrin had released a white paper; and it was the day before the board meeting so the technical committee did not have time to review that paper prior to the last board meeting. The technical committee has since reviewed that paper and found that it does not present any new information from the stock assessment; and it does not change the recommendations from the 2012 stock assessment that the stock is depleted.

There were some issues that were identified in the white paper. One was the geographic range for the stock assessment. It indicated that we only considered U.S. stocks in the stock assessment. That was made very clear in the stock assessment report as well as the peer review that it did not encompass the entire geographic range of eels.

We intend down the road in future stock assessments to try and bring in Canadian indices as well and possible Gulf of Mexico indices in new stock assessments. It also indicated there are some positive indicators in recruitments in that paper. We were unsure how familiar Dr. Cadrin was with some of the surveys that he cited. He also did not cite some of the indicators that were showing negative indices.

It looked like it was kind of biased and just showing the indices that might show some positive recruitment. The technical committee feels that even if the stock may be improving, it is a very slow upturn from some very low level, and there is still much uncertainty with that. Then, finally, the Fish and Wildlife Service ESA review; there was the suggestion in that paper that the ESA review in 2007 was more encompassing than the assessment.

Frankly, the stock assessment looked at data more thoroughly than the endangered species review in 2007. The endangered species review was also for a different purpose. Looking at reductions for a fishery is a very different assessment than what you do to look at endangered species status. It wasn't an appropriate comparison at that time. That is the end of the technical committee report.

CHAIRMAN O'CONNELL: Questions for Sheila? Rob.

MR. O'REILLY: This may be a slight follow-up, Mr. Chairman, if that is okay. Sheila, the 907,671 baseline amount of yellow eel harvest; what is the benefit of that in terms of – is it looked at as a cap basis, as a place to reduce from? Does it capture the variability among the states that have been the largest harvesters over that time? Does it also represent what happened back in 1998 forward?

I guess what I'm asking is it seems on the one hand 907,671 pounds is a place to start; it is a baseline; and you can make reductions from

there, which the technical committee has come up with different scenarios; and the latest one is 12 percent. What would be the best way, since the technical committee hasn't done this, to take a 12 percent reduction?

This could be a board decision as we go through the working group today; but can you give an idea from the technical committee? You have established a baseline; you know there is variability not only inter-annually but through the 1998 to 2010 period; and you know there is variability state by state; so do you have any comments on maybe the best suggestion on how to take 12 percent reduction? That is a long gone.

MS. EYLER: That is a question of allocation and that is not something the technical committee would comment on.

MR. O'REILLY: Mr. Chairman, I contend that is not allocation. It is a question of there is a baseline. The technical committee has recommended a 12 percent reduction. Does the technical committee think it should have any advice on how the 12 percent reduction should be taken? Just as the technical committee has advice on other issues such as Dr. Cadrin's paper that you just did were on issues of perhaps how the mesh sizes should stay in place or not stay in place; so I think the technical committee might have a comment; but if not –

CHAIRMAN O'CONNELL: Rob, are you asking are there other management options than setting a quota for achieving a 12 percent reduction?

MR. O'REILLY: No, Mr. Chairman, I'm just trying to figure out that this latest information on a 12 percent reduction – I'll give a hint. One simple way would be to just take 12 percent from every state. I mean that is certainly something to think about. What I want to know is would that satisfy the technical committee? Do they think that is a way to have a 12 percent reduction?

The reason I ask that is because the fisheries have changed. We looked a lot about 2011 to 2013 data. We know the fisheries have changed and yet we're using a stanza as a baseline which encompasses 1998 to 2010. A lot of those years no longer pertain. For example, last meeting Dr. Daniel there was no way that he could go home and say there would be a 50 percent reduction to North Carolinians. But at the same time you have to go back in time to see that type of harvest. Perhaps this is too encompassing right now and I will bring it a little bit more later; but my real idea is if there is a 12 percent reduction, why can't we be simple about it?

CHAIRMAN O'CONNELL: Yes, I think I understand and we will probably have further deliberations when we get to the final actions of Draft Addendum IV. It sounds like it comes down to what baseline do you take that 12 percent from; and it comes back to an allocation discussion. Do you use recent landings, historic landings, a mixture, a blend? I think the technical committee is saying that you should reduce your landings form that '98 to '10 average and specifically now a 12 percent reduction from that. Rob.

MR. O'REILLY: Very quickly; then does the technical committee think it is the amount of landings? Because the assessment ended in 2010, the assessment years were in there for 1998 to 2010; is that really the driving force for the technical committee?

MS. EYLER: Yes; because those years were used for the stock assessment, 1998 to 2010. The stock was determined depleted from that status and we recommend a reduction occur from those harvest landing. Instead of taking one year, we took an average of all years within the stock assessment time period.

MR. O'REILLY: Last one; has the dynamics of the fishery changed compared to that baseline time period 1998 to 2010?

MS. EYLER: State-by-state variability each year changes a lot; but overall the coast-wide harvest has been relatively stable right around a million pounds. The technical committee views this as one population; so we're concerned about

coast-wide harvest as a whole and not necessarily what individual states are harvesting.

MR. JAMES J. GILMORE, JR.: Sheila, that was a good report. I don't want to get into the quota discussion yet; but I want to get one question answered. I know it has been brought up at the technical committee that particularly for the New York situation; that we weren't recording landings for those earlier years – the landings were actually lower – and that we couldn't include 2011 and beyond because that was not part of the stock assessment.

I understand the reasoning behind that; but the problem we have, though, is that the data is wrong in the assessment then because we excluded a lot of landings. The simple question at this point is if those landings had been included – and in New York's case you would have maybe gone up another 50,000 pounds, whatever. I know you can't quantify it, but how would that have affected the stock assessment? Would it have been higher, lower or what do you thing?

MS. EYLER: I don't think the landings themselves would have changed the outcome of the stock assessment or the depleted status. It may change this graph potentially if you have more landings to be included in that; but without those numbers, there is nothing more that we could do with this assessment other than an average of what landings we had reported.

CHAIRMAN O'CONNELL: Sheila, I had one question. You had mentioned that the technical committee did not believe those 70 percent reductions in glass eels would ensure stock rebuilding and defaulted to a 12 percent recommendation. Can you explain how the technical committee came to that recommendation?

MS. EYLER: I want it to be clear that even that even a 12 percent reduction and because we don't have targets established in the stock assessment won't guarantee stock rebuilding either. We felt that a 12 percent reduction just accounts for the variability in the harvest and that most years, if they went under the average harvest from 1998 to 2010, you would have a reduction in the fishery.

If you go with just the average level of 907,000 pounds, it means half the years you're still going to harvest more than what you would have harvested, anyway. With a 12 percent reduction in the yellow eel fishery, because there is – there is some variability in the yellow eel harvest, but it is not a great variability.

You're still bouncing around a million pounds. That would be something we could consider measurable but still not necessarily something that would ensure stock rebuilding. Doing the same analysis for glass eels – that fishery is much more variable and the pounds landed are much smaller – we didn't see that it would be very consistent to apply that same methodology of a 70 percent reduction to that fishery; and that it might be easier just to hold it across the board because we're still looking at one species and one population. The glass eels are not a different species; this is still the same species; and we felt that 12 percent was still appropriate.

CHAIRMAN O'CONNELL: All right, seeing no other questions, we'll move on to – Mitch.

MR. FEIGENBAUM: Sheila, you have sort of indicated this with your last comments a little bit, but I just want to be clear. The technical committee cannot point to any analysis that indicates how a 12 percent reduction in yellow eel or glass eel catches would impact the overall populations; is that correct?

MS. EYLER: That is correct; there are no targets established in the stock assessment so we cannot ensure that 12 percent reduction would make a change in the population.

MR. FEIGENBAUM: In fact, isn't it true that the technical committee does not have any population estimate in the first place? Not only do we not have targets; we don't have an estimate of what the population is at this time; isn't that correct?

MS. EYLER: Yes, that is correct.

MR. FEIGENBAUM: The stock assessment included a DBSRA model that purported to estimate the total population of eels in the U.S.; but in fact that model was rejected by the peer reviewers so we can't rely on that to estimate what the total population is; am I right about that?

MS. EYLER: Yes, that is correct.

MR. FEIGENBAUM: Sheila, I only have one other question. You indicated that even at 12 percent, the technical committee can't assure anybody that populations will rebuild with a 12 percent reduction; I heard that right, didn't I?

MS. EYLER: Yes, you did,

MR. FEIGENBAUM: Okay, but my question is last year at about this time the technical committee chairman indicated that it was of the mood of the stock assessment committee – he said I think the SAS feels that period really contributed to our present level of abundance, which we do consider depleted. He said that you can see we've come down to a low level from that and we are rebuilding.

Then he presented us various models based on just the DBSRA; that depending on certain assumptions that were plugged into the model, that rebuilding would continue but at different levels. He didn't question a year ago that stocks currently were rebuilding. Has the technical committee concluded at this point that is not true; that stocks are not rebuilding?

MS. EYLER: The only thing that has changed since last year as far as the stock assessment is concerned is that we've reevaluated the young-of-the-year survey; and we are seeing no trend in the young-of-the-year survey. That is the only indices that has been updated since the stock assessment.

MR. FEIGENBAUM: And in fact we have two young-of-the-year indices, coast-wide GLMs, and neither one of them show a trend up or down for ten or twenty years; is that correct?

MS. EYLER: Right; there is no trend in any of the state indices at this time.

MR. FEIGENBAUM: Okay, and what about when you aggregate all the state indices and create a coast-wide index?

MS. EYLER: That has not been updated since the assessment in 2012.

MR. HASBROUCK: Thank you, Sheila, for your presentation. In terms of the 12 percent; you came up with a 12 percent based on the CVs to account for the annual variation for total landings or the state-by-state landings?

MS. EYLER: It was for total landings each year, combining all states together.

MR. HASBROUCK: So that 12 percent figure, then, just accounts for the variability, really; is has no other basis, is that right?

MS. EYLER: Yes; that is correct.

MR. O'REILLY: Sheila, if you have covered this already, my apologies, but I'm so used to control rules, and they give you a lot of comfort to have controls; so if a depleted status – I don't think I've never heard exactly what that is. Is it something that is quantitative that you can tell us not only what level of depletion there is; but also with another assessment or an update or however that is planned, will the technical committee be able to know whether or not it is still depleted, not depleted; how does that all work at this point? What are the deliberations on that?

MS. TAYLOR: The depletion recommendation coming from the assessment was based on the overall indices that the SAS and the technical committee were reviewing in light of the recognition of the reduction in landings, neutral or downward trends in some indices at the state level and aggregated; so at that time we were not working under a standard definition by the commission of a depleted designation; but in light of the fact that the model was rejected by the peer review panel, the SAS and technical committee still felt that the situation still

warranted the depleted status rather than the overfishing status, which was taken off the table.

Then moving forward with how an update could occur, if one was planned from the board, the technical committee and SAS would have to review the information and compare it to what was compiled at the time of the assessment and then try to make the best determination. They did do a review of the young-of-the-year indices at the board's request and presented that information. That was just the state-specific ones looking at that information that wasn't aggregated and still felt that the depleted designation was appropriate.

MR. FEIGENBAUM: Thank you for that clarification, Kate, because I think Rob had asked a pretty important and fair question. We noticed in the – you know, the press has reported on the ASMFC actions regarding eels. Basically, to some extent the press treats depleted as something that is awfully dramatic. I haven't seen anyone use the word "extinction" or "endangered" in connection with depletion, but that is the tone that a lot of the press takes. Now here in the commission's primary eel meeting itself, one of our commissioners who voted to accept that stock assessment, as we all did, acknowledges that it is not even clear what depleted means. Kate, you said that the stock – the peer reviewers, after they had rejected the DBSRA, nonetheless accepted the conclusion that the stocks are depleted.

I would ask you like you've cited the Mann-Kendall analysis as the primary source for supporting the contention that we have depletion. As I looked at the stock assessment this weekend; I saw that the Mann-Kendall analysis showed 34 trends were neutral, 12 trends were downward and 4 were upward. Is that the primary indicator upon which the SAS concluded that we're in a depleted status?

MS. TAYLOR: That was one of many different types of analysis that the SAS used. It was not the primary one; and taking into account all of the different analysis, that was how the peer review panel and the SAS and the technical committee came to the recommendation.

MR. FEIGENBAUM: And the peer reviewers were aware that the Lake Ontario populations had completely collapsed 20 or 25 years ago; is that not correct? In fact, one of the peer reviewers was Gerald Chaput from Canada.

MS. TAYLOR: We select qualified peer review panelists. They were aware of the history of some of the Canadian background; so I cannot say how much knowledge they have of it, though.

MR. FEIGENBAUM: And my last question is the Geological Service says – and I think our friends at Fish and Wildlife Service or maybe the technical committee itself has presented to this commission before statistics indicating that some huge percentage – and don't quote me on numbers, but it was 80 percent, 90 percent of all freshwater habitat to eels has been blocked over the last half a century because of obstructions. That was presented also as part of the stock assessment; yes?

MS. EYLER: Yes; I believe there is information in the stock assessment about habitat loss.

MR. FEIGENBAUM: All right, so it is quite possible that when the peer reviewers accepted the – they rejected the model as for management use, but they accepted the conclusion that we're depleted.

It is possible they're just saying, well, based on the fact that Lake Ontario populations collapsed 25 years ago and never came back; and based on the fact that we blocked almost 80 to 90 percent of the freshwater habit for eels, who would argue that the stock is depleted from historic norms? Is there really any – did they say anything more than that to indicate that they felt in the U.S. Fishery, including estuarine populations; that the stocks were down?

MR. ABBOTT: Tom, a point of order.

CHAIRMAN O'CONNELL: Yes, Dennis, I was just getting to that myself. I think –

MR. ABBOTT: I think we're having a debate between two people; and you haven't even

recognized the gentleman for follow-up questions. This, in my opinion, has gone a little far and a little far afield.

MR. FEIGENBAUM: I will leave my further questions until we discuss the management options in the working proposals. Thank you.

MR. ROY MILLER: Mr. Chairman, I just wanted reiterate what I thought I heard this morning. It was concluded based on the juvenile eel surveys that we can't show a significant increase or decrease; that there is too much variation in the annual abundance of the glass eels. We've also heard that the commercial landings have varied from '98 to 2013 with no apparent trend. Am I correct in both of those assumptions?

CHAIRMAN O'CONNELL: That is my understanding, Sheila, correct?

MR. MILLER: And yet our technical committee is still suggesting to us, nonetheless, a 12 percent reduction. I just wanted to make sure I understood that. Thank you.

CHAIRMAN O'CONNELL: Sheila, do you have any comment to that; is that a correct characterization?

MS. EYLER: We did not look at trend in harvest from 1998 to 2013; so we aren't saying it is increasing or decreasing from then.

MR. MILLER: Well, I didn't look at from a statistical point of view; but just glancing at the landings' figures that are in our document package, I see no apparent trend in the landings from '98 to 2013; at least none I can discern. Thank you.

DRAFT ADDENDUM IV:
REVIEW OF THE PROPOSED OPTIONS

CHAIRMAN O'CONNELL: All right, let's move forward and Kate is going to give an overview of the options in Draft Addendum IV.

MS. TAYLOR: A very quick overview, Mr. Chairman. As a refresher moving forward through the options in the addendum, it does address glass, silver and yellow eel fisheries. For the glass eel fishery, Option 1, the status quo; Option 2, the 2014 management measures where Maine would be held to their approximately 11,000 pounds quota with South Carolina maintaining their permit system as they have in place.

Option 3 is the closure of the glass eel fishery; and this is either immediate, delayed or at a time frame as specified by the board. Option 4 would implement a quota for the glass eel fisheries. There are options that are contained in the addendum for different quota amounts. Option 5, if the board chooses to implement a quota system, then they have a mechanism to address overages.

Option 6 was a glass eel harvest allowance based on stock enhancement programs. Essentially this would allow states to harvest glass eels for improvements to, for example, passage or increased glass eel survivability. Different options are presented to cap that harvest based on the restoration amounts that are able to be quantified.

Option 7 was the aquaculture quota. This would allocate a portion of any quota if the board moved with a quota for the glass eel fishery and allocate it for aquaculture purposes. Option 8 deals with aquaculture permitting and specifies that any harvest of glass eels for aquaculture purposes must be collected through an aquaculture as opposed to commercial or research permits. Option 9 would implement daily trip level reporting for states with a glass eel fishery. Option 10 would require states with a glass eel fishery to implement a life cycle survey.

Moving through to the yellow eel fishery, Option 1 is the status quo. The next four options deal with quota and allocation. Keep in mind all the quota options use 2010 as the starting point for the development of the total coast-wide quota. The base years for determining allocation do vary by option.

The PDT notes that there a significant number of alternatives in setting the allocation years; but the four that are presented really do represent the range potentially that could be considered. For each of one of these alternatives, there will be states will be negatively impacted or will be benefitted as a result of the sometimes large annual variability in harvest, as we have seen.

Options 2 and 3, I would also like to point out, use a filtering method. This filtering criteria is a way to increase the equity in the allocation given the variability in the state landings. These three filtering criteria include that states be allocated a minimum quota of 2,000 pounds to prevent any administrative burden; although we do note that this might result in a large increase in the poundage that is given to some states. For example, New Hampshire started out with 134 pounds and would move up to 2,000 pounds.

The second filtering criteria is that no state is allocated a quota more than 10,000 pounds above its 2010 harvest. The third criteria is that no state would be allocated a quota that is more than a 15 percent reduction from its 2010 harvest. The different tables; Table 5 presents the quota options under Option 2 with a 10 and 20 percent reduction.

Option 2 uses 2011 through 2013 as the base years. Option 3 uses 2002 to 2012 as the base years with same filtering method as under Option 2. Again, here is the table with the 10 and 20 percent reductions. Option 4; this is again using the coast-wide quota set at the 2010 harvest levels. The allocation here is based on the average of the three highest landing values from 2002 to 2012 with no filtering. Table 7 includes those quota options with a 10 and a 20 percent reduction.

Lastly, Option 5 is a weighted yellow eel quota where the three highest landing years from the period 2004 to 2013 were averaged and then weighted at 30 percent, which was combined with the average landings from 2011 to 2013, which was weighted at 70 percent. This is described in Table 8 in the document.

If the board chooses to implement the quota system, Options 6 and 7 addresses quota overages and quota transfers. Option 8 focuses on a catch cap. This is based off of the 2010 harvest levels that we just saw in all of the quota options. Under this option, states and jurisdictions would be allowed to fish until the cap is reached.

Once the cap is reached, all states and jurisdictions would be required to close all directed fisheries and prohibit landings. A catch cap does help to control the amount of mortality that is occurring on the species without needing the difficult decision of allocations by states. However, the PDT notes that we would still need timely reporting. There is no state-specific payback mechanism. It may promote a derby-style fishery; and there could be the potential loss of the historic fall and winter fisheries. The graph provided in the document just shows the variability by month in landings averaged out on the coast.

The addendum also addresses the silver eel fishery. As you remember under Addendum III, New York was granted a one-year exemption from the time closure requirements that were implemented. Option 1; let me just make it clear that this would maintain the status quo and so New York's exemption would expire on December 31st; and they would have to revert to the Addendum III requirements.

Option 2 would be an extension of the sunset provision at a time frame specified by the board and allow the continuation of New York's silver weir fishery in the Delaware River. Option 3 deals with effort reductions, which would essentially limit the weir fishery from August 15th to September 30th. Option 4 is a transferable license cap.

There are three alternative management frame work plans contained in the addendum; the first being the fishing mortality plan, which essentially is that states must assess mortality that is occurring within their jurisdiction; and once assessed, they could reallocate a portion of that mortality to any fishery or for aquaculture

research purposes provided there is an overall net gain in conservation.

Under the aquaculture plan, states would be allowed to harvest a maximum of 200 pounds of glass eels annually from within their waters for use in domestic aquaculture purposes provided they can objectively show that the harvest will occur from a water shed that minimally contributes to the spawning stock of American eel.

The last plan is if the board implements a quota, a state may request a transfer from one live stage to another; so, for example, from a yellow eel quota to a glass eel fishery based on the life history characteristics inherent in that state of jurisdiction. That concludes my brief report on Draft Addendum IV. Thank you, Mr. Chairman.

CHAIRMAN O'CONNELL: Any burning questions for Kate? We will obviously be talking about this afternoon. It is 12:35. I really think it would be beneficial for the board to hear the workgroup recommendations before we break. It probably would take like ten minutes. Is there any objection with going through those recommendations before we break? Tom; objection?

MR. THOMAS FOTE: Some of us have been sitting here since eight o'clock this morning. What seems to take ten minutes this morning ends up being twenty and thirty minutes the way we're going right now. I'm just saying if we're going to make it ten minutes, make it ten minutes.

WORKING GROUP RECOMMENDATIONS

CHAIRMAN O'CONNELL: It is my suggestion that we give the report but hold the questions until after lunch. All right, following our last board meeting the working group was formed as charged. You should have a memo dated October 23rd. We had really good representation. We had Terry from Maine, Ritchie from New Hampshire, Russ from New Jersey, John from Delaware, myself, Louis from North Carolina and Ross Self from South Carolina.

I think we had a really effective and efficient set of meetings. A lot of that goes to Kate's work in between when we met. We did have one conference call and then we did have a face-to-face meeting for which everyone thought that having that face-to-face meeting was very beneficial. What I'm going to do is I'm going to go through our recommendations for glass eels and then yellow eels -- what we tried to do in this report is we tried to clearly identify the guidance that has been provided to the board from the technical committee – what our working group recommendation is and then our rationale for that.

In regards to glass eels, when the workgroup had a conference call and met, the technical committee guidance at that point in time was to reduce harvest from 1998 to 2010, which was just under 5,300 pounds. As you heard today, the technical committee sent a memo last week now suggesting a 12 percent reduction.

That information was not available when the working group met; so the guidance we had was going off of the baseline of '98 to 2010. We had a lot of discussion in regards to the glass eel fishery, taking into consideration the socio-economic importance, the uncertainty and what the conservation benefit would be by taking a reduction to the technical committee recommendation.

We ultimately came to a recommendation to support Option 2 with modification that would set a quota for Maine at 9,688 pounds. That is what was harvested in 2014. It is below their current quota but what was harvested in 2014. The working group did note that this was above the technical committee recommendation; and we wanted to explain our rationale for that recommendation.

One is that there is uncertainty in the added conservation benefits with going beyond that level of reduction; recognizing the socio-economic importance to that fishery; expected increased levels of poaching that would occur

with significant cutbacks; and the expected inability for Maine to complete the important life history study that has been recommended by the technical folks.

We do recommend that this quota be reevaluated after three years, at a time which Maine hopefully will have information from their life cycle monitoring program. As you can see, the working group really tried to find that balance with one of the important values that we adopted in our strategic plan, which is balancing that conservation benefit with the important economics related to our local economies.

We did agree that there should be a quota overage payback provision. I should also mention the South Carolina measures; the recommendation was they would remain the same as were in 2014. There would be a quota payback provision under Option 5. The workgroup did support Option 6, which is the glass eel harvest allowance based on stock enhancement programs.

It would support Option 6-C, which would allow a 25 percent harvest of glass eels based upon the contribution expected from that stock enhancement. It supported Option 8, aquaculture permitting; supported Option 9 and 10 related to reporting requirements and monitoring requirements; but did recommend that a state that harvests less than 750 pounds of glass eels would be exempt from the reporting and monitoring to alleviate the economic burden that would require.

Moving on to yellow eels; again at the time we met, the recommendation from the technical committee was to reduce landings from the '98 to 2010 average, which was 907,000 pounds. We had a lot of discussion in regards to this allocation. On our first conference call we tried to take off our state-specific interests and talked about what are the principles by which we should base these allocation decision. It was like fairness; no one state should be disproportionately impacted positively or negatively, items like that.

We took a glance at the allocation options, Options 2, 3, 4 and 4; and Kate provided some information that was very insightful. It allowed the working group on the first conference call to remove Options 3 and 4; because it was clear that it was unfairly treating certain states. For example, Option 4, which reduce the coast-wide harvest by about 92,000 pounds, Maryland's harvest would drop by 130,000 pounds.

It was very clear that some states were being disproportionately impacted and other states were positively benefiting from those options. We also asked Kate to look further into Option 5 by applying these filters to Option 5 to try to address those disproportional impacts. The group did think that the coastal cap was an option worth pursuing.

When we got back together for our full meeting, we were able to work through those limited options and come to a recommendation. That recommendation was to support Option 8, which is a catch cap, a soft coastal cap for yellow eels. It was largely recognized that this fishery, as Roy Miller had said, has not varied much over the last fifteen years.

But recognizing that there is a need to keep that harvest from expanding, we did look at an option that would look at a 16 percent reduction that would get us to the baseline recommendations of the technical committee at the time we met, which was 907,000 pounds. We set forth some triggers. As we monitor the landings under this soft coastal cap, we wanted to ensure that landings don't increase substantially.

We decided that it would be good to set some triggers. The first trigger would be is that if the coast-wide landings exceeded 10 percent of that '98 to 2010 average, we would immediately go to a state-by-state quota allocation; and that would be based upon Option 2. The other trigger was if the coast-wide cap exceeded that 907,000 pounds in two consecutive years, whether it exceeded it by 1 percent or 9 percent; if we saw that for two consecutive years, we would also go implement a state-by-state quota system.

Given the amount of time we've had discussing these issues, we thought it would be really beneficial for this board to hardwire that state-by-state quota system into the actions that we take today. Based upon our review of the different options, we felt that Option 2 was the most equitable option for all the states.

With Option 2 with a 16 percent reduction, we would keep the state-by-state quota at the 907,000 pound baseline recommendation. When we used Option 2 and applied the 16 percent reduction, the overall landings by the quotas left just under 14,000 pounds. The working group recommendation was to reallocate that 14,000 pounds to those states that have been negatively impacted below the 2010 landings.

New Jersey, Delaware, Potomac River, and North Carolina, with not allocating more to Maryland given the high allocation that Maryland already has; so it allowed those states that were negatively impacted to receive a little bit more up to their 2010 level.

The working group does recommend, to avoid us going forward with this recommendation and the coastal cap triggers being tripped – we don't want to find ourselves in a situation that we're not prepared to act – the workgroup recommendation was that states should go forward with development of rulemaking that would allow them to implement the state-by-state quotas if the triggers are tripped. That could be as early 2016 if again we exceeded that 10 percent landings' trigger.

Also in regards to reporting, we need to ensure that we have the reporting systems in place to monitor state-by-state quotas if we to go down that path. We recommend that states would move forward under this coastal cap to come back to the board at the annual meeting next year to demonstrate that they would be prepared to implement a state-by-state quota if the trigger was tripped.

The working group did support the state-specific sustainable fisheries management plans under Section 3.1.4. It does recommend that all requests for aquaculture harvest be first filed through the state and not directly to the commission. Lastly, we talked about the silver eel management measures that the board took at the last meeting.

You see by that working group's recommendations that silver eels, glass eels and yellow eels are all being treated differently in regards to the level of reduction. We tried to explain the rationale behind that.

We recommend that since the management measures have already been adopted for silver eels; that be reevaluated when New York has some more information in regards to some of the life history studies that are being performed in New York; and that would likely be in three years.

In closing. we felt like we should encourage the board chair and the commission staff to begin looking at when the next timeline would be for the next stock assessment; looking at when there would be new information and to invest those resources to complete another stock assessment, which we can use to reevaluate the management measures that we moved forward in Addendum IV.

That's it; I think I probably went a little over ten minutes, Tom. I apologize for that. We won't take any questions at this point, but hopefully that gives you some information to digest over lunch. I encourage you to speak some of the working group members if you have questions. We will reconvene at 1:45.

(Whereupon, the meeting was recessed at 12:45 o'clock p.m., October 27, 2014.)

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MONDAY AFTERNOON SESSION

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The American Eel Management Board of the Atlantic States Marine Fisheries Commission reconvened in the Grand Ballroom of The Mystic Hilton, Mystic, Connecticut, Monday afternoon, October 27, 2014, and was called to order at 1:55 o'clock p.m. by Chairman Thomas O'Connell.

DISCUSSION OF WORKING GROUP RECOMMENDATIONS

CHAIRMAN O'CONNELL: We're going to go ahead and get started. Welcome back. What I wanted to do is just open up for questions in regards to the workgroup's recommendations and myself and the working group will try to address those. Any questions on the working group recommendations? Rob.

MR. O'REILLY: Mr. Chairman, there was a table the working group introduced on Page 5 of the October 23rd document. It shows the updated quota. Is that the working group recommendation for yellow eel?

CHAIRMAN O'CONNELL: Yes.

MR. O'REILLY: The reason I asked, there was discussion earlier during your presentation using the filters and not disadvantaging too much and not advantaging too much, that type of an approach; but some of these updated quotas are still pretty harsh in terms of a reduction. Notably Virginia is about a 24 percent reduction; PRFC is about a 52 percent reduction.

I would like to ask Kate, if she could, if it would be all right with chair, to put up a table. I won't dwell on it very long, but I think it might help if you have that or if this is an opportune time to give us an idea – there it is –

CHAIRMAN O'CONNELL: Rob, obviously this was an item that the workgroup really struggled with was trying to find that balance with each state's high periods being somewhat different and trying to account for recent fisheries versus historical fisheries; so when you referenced the reductions that you did, what time frame are you referencing?

MR. O'REILLY: I'm referencing 1998 to 2010. In the case of PRFC, the average was 125,803 pounds and the updated quota is 52,358. For Virginia the 1998 to 2010 average was 102,070 pounds and the updated quota is 78,702. I bring those together because when we talked about buyers earlier – and certainly there is central buying within the bay jurisdictions; so that is why I brought that up for PRFC and Virginia.

The table, which is hard for me to even see what is up there but I have it here, indicates that there are certainly several states – and I'm going to go through them very briefly – that if you compare the working group quota to 1998 to 2010 – and there is a reason I'm saying 1998 to 2010 because earlier when I asked the technical committee chair of the basis for the 12 percent; that was based on 1998 to 2010.

So as I look across the states, on the top table, since you probably can't focus in on it, Delaware is a reduction of 45 percent; PRFC of 58 percent; Virginia 23 percent. Those are all decreases. The increases are Maryland at 43 percent and North Carolina at 25 percent; Florida 42 percent. I think the bottom table also shows a little bit about what we haven't talked about at length.

We've talked about ways to bring in the 2011 to 2013 as an allocation basis and to not disadvantage those states that have had recent upturns in their landings; but when I look at that, looking again at Virginia specifically, it is a 24 percent decrease from the working group quota from the 2011 to 2013 average.

Virginia doesn't cut a break no matter what in these types of scenarios nor in the working group updated quota. I'd like to come back later and follow up on something different concerning the 12 percent; but the premise I have right now is I'm not certain why the various working groups that have formed have spent so much time – and I think it is good they have. I understand why they have and I understand the intent; but really it is a difficult challenge no matter how you try to work out the winners and losers in all this.

In the case of Virginia, I just can't see where if we have a long-term average, 1998 to 2010, of 102,000 pounds and in fact we continue that in recent years, even if you add in 2013, that we're headed towards a 24 percent reduction. We're not alone. There are other states that are in that situation no matter what we do. Thank you very much.

CHAIRMAN O'CONNELL: I'll ask the workgroup members to comment; but I think it came down to in order to account for more history, you're going to have a more substantial on the current fisheries. Option 3 and 4 looked at a way to incorporate historical harvest; but in order to achieve that, you're going to see substantial impacts to current fisheries. I think Ritchie wanted to comment, perhaps.

MR. WHITE: Yes; we certainly struggled with trying to be fair. There is no scenario by which somebody doesn't gain something and somebody doesn't lose something; but we tried to lessen that as much as possible. I think what to concentrate on is that we're not going to these quotas. We're going to a soft TAC and that gives every state the ability to catch what they caught last year, basically, without going to these quotas. If we stay under that number; then we can continue on. Some states; their harvests will vary from one year to the next. That is what we focused on is to try to have the fishermen stay within the overall coastal quota so we don't have to go to these individual state quotas.

MR. GILMORE: Ritchie, those are good comments; and I'm good with the first part because I think that is a good first step and it gives us a little time. Getting to Rob's comment, first off, Rob, you characterized like 2011 through '13 as an uptick. In our situation it is not an uptick. We just were not requiring harvest landings before 2011.

As I said earlier, we actually had higher landings that are not in the stock assessment. If I look at any of the options, well, it doesn't look so bad because we're looking like we're in maybe the higher percentage, the 25 percent reduction; but if I look at what our actual landings are based on the last three years than what we thought before, I'm at a 65 percent reduction.

My concern with this is if we get to that point next year where I've got an actual landings around 50,000 pounds but I've got a quota of 12 or 13,000 pounds; I have to shut my fishery down probably early in the season. The idea of like reducing poaching and all that stuff; that is going to go through the window. It is going to have rampant poaching going on.

The prices in the adjacent states are going to go up and we're going to shut ourselves in the foot. We really need to get something for 2016 that is going to actually work. I have no problem taking a hit; and I think most of the states understand that they're going to have to have a reduction. I know you guys tried to get equity under this; but right now it is pretty far away from that.

MR. MILLER: Mr. Chairman, I was wondering if you or perhaps Kate could help review for me the difference in the filtering mechanisms between Section 3.1.2 out of the plan and the working group filtering mechanisms. I'm not sure that I understand what they are in relation to each other.

MS. TAYLOR: Under the filtering method as it was described in the draft addendum; no state could be allocated a quota that was more than 10,000 pounds above its 2010 harvest level. The working group, after deliberation, felt that this number should be reduced to 2,000 pounds in light of the fact that there was a minimum allocation of 2,000 pounds given to some states that had less than this number; and so they thought that would equitable to allow the increase up to 2,000 pounds above the 2010 harvest level.

Then also just point out when this new filtering method was applied, the initial allocation was 893,00 pounds, a little over, and then the working group used the difference between this 893,000 pound level and the technical committee recommended baseline of 907,000 pounds; and this difference was just 14,000 pounds.

This was distributed to the states that were negatively impacted by the quota distribution as a way to provide a bit of a buffer to them and bring their quota up. The states of New Jersey, Delaware, PRFC and North Carolina each received just over 3,000 pounds and the state of Rhode Island was brought up to their 2010 harvest level.

CHAIRMAN O'CONNELL: Rob, I have you but let give a few other people first chance at their questions. I have got Bob.

MR. BALLOU: Mr. Chairman, I just want to thank the working group for their efforts on this program. I think they've made some good headway; and I generally support the direction they're advocating. However, I'm not sure I follow the process leads to the Table 1 figures for the updated quota based on what I understand to be the approach that is advocated.

If I could, I'm just going to walk through what I think are the two or three, four or five steps that I think lead to those updated quotas; and I want to find out where I might have been misled in my analysis. First of all, we're talking about a pie that needs to be sliced up. The first question is what size is the pie? As I understand it, it is a 907,669 pound coast-wide quota that the working group started with; is that not correct?

MS. TAYLOR: The allocation years was the 2011 to 2013 time period.

MR. BALLOU: If I could; that might lend itself to what percentages are applied to the coast-wide quota; but if I follow the working group report, the first recommendation is to adopt a coast-wide quota of 907,669 pounds and then allocate it. Maybe I'm getting this backwards, but it seems to me that the first issue is what is the recommended coast-wide quota for yellow eels; and I'm led to believe the recommendation is 907,669 pounds.

MS. TAYLOR: The initial starting quota was the 2010 harvest level. The allocation comes from the average years of 2011 to 2013; and from that 2010 harvest level, they're taking a 16 percent reduction.

MR. BALLOU: I guess I'll just acknowledge I'm confused. I appreciate the answer and I guess I just need to get my head around this. As I read through the report, it seems clear to me that the first recommendation was a recommendation to adopt – and I'd have to go back and find it in here; but to adopt a new coast-wide quota – or adopt a coast-wide quota of just 907,000 pounds.

Maybe that is my problem because I had started from there and I worked through the percentage allocations, which I understand are the same percentages or would be as shown on Table 5, Page 19 of the draft addendum; and so I applied each of those to that coast-wide quota and then I applied the filtering mechanisms as adjusted.
Then I found that there was actually some issues as I moved on down the line. It struck me that I must be doing something wrong in trying to figure this out; and I would appreciate any guidance. I know, Kate, you've answered my question twice; so I don't want to ask for a third shot. Maybe I'm just the one that's confused here. Thank you.

CHAIRMAN O'CONNELL: I'll take a shot at it, Bob. As much as I've looked at this, I still ask the same question at times. Kate just check me on this; the 2010 landings are the starting point. Then what the working group did was determine what level of reduction to the 2010 landings would get us to the 907,000; and that resulted in needing a 16 percent reduction.

Then from that 16 percent reduction from 2010, the quota gets allocated based upon a state's average landings between 2011 and 2013. From that point you apply the filters that Kate described; and when you do that, you fall about 13,000 pounds short of that 907,000. Then that is where the working group's suggestion was to reallocate to the states that have been negatively impacted from 2010 landings. I think it is that initial part that maybe you weren't following. You take the 2010, take the 16 percent off of that and then allocate it.

MR. BALLOU: I think we're saying the same thing. I think if you take 16 percent off 2010, you get your 907,669. No?

CHAIRMAN O'CONNELL: You actually get a little less than that, I think.

MS. TAYLOR: 902.

CHAIRMAN O'CONNELL: 902; and then when you apply the filters, it jumps up and down a little bit. John.

MR. CLARK: I know Rob and several of the others have pointed out how the state-by-state quotas – Delaware is a state that did not benefit under any of those. I know that is the problem we've had with this from the beginning is how to allocate this fairly; and I think that is why I think the important that we have the cap and that we stay within the cap. I just had a question for Jim in New York as to how come New York didn't have landings being that the original required mandatory reporting and the first addendum in 2006 required mandatory reporting?

MR. GILMORE: We had reporting but the compliance with it was pretty low. When we finally changed the regulations in 2011, we encouraged better compliance with them. We're still probably not catching them all but we're getting more accurate.

MR. DAN McKIERNAN: Can I assume that if the working group's recommendations are adopted, there would be transferability to coverage overages between states?

CHAIRMAN O'CONNELL: Yes; if the triggers for the cap were tripped and we went to a state-by-state quota, there would be quota transfers allowed.

MR. McKIERNAN: Okay, could I recommend that this group consider the black sea bass style of overage and underage reconciliation instead of allowing individual states to simply make phone calls. For example, if I have a 2,000 pound overage in the year 2017, I may have no fishery the following year; whereas, if Maryland has a 2,000 pound overage, they won't even blink.

In the black sea bass system if all states combined come pounds short, then any state that goes over doesn't have to pay overage because the overall quota was not exceeded. If the overall quota is exceeded, the payback is proportional to the allocations. I think that would be fairer way to do it. Otherwise, you might be looking at a lot of scrambling and phone calls.

CHAIRMAN O'CONNELL: Thanks, Dan; I think it is a good suggestion. Rob, back to you.

MR. O'REILLY: Mr. Chairman, I think the flaw in the table up there and one that has persisted is giving 2010 any status whatsoever as we go through these reductions. Earlier today the technical committee substantiated that it is the 1998 to 2010 years that are in the assessment; the 1998 to 2010 years where a reduction should start from.

2010 has done really nothing to cause anything but problems in these analyses just because it happens to be the terminal year in the assessment. I've never understood the emphasis on 2010. If you fall back to 2009, which in my mind has as much credence, then the landings go from 978,000 to 778,000 and certainly more conservative. Virginia had 119,000 pounds instead of the 78,000 pounds from 2010.

I'm not pointing that out for Virginia; I'm pointing that as an example that 2010 really is not something that should be part of our determination of quotas. I appreciate what Ritchie said on the soft cap; but I worry with what New York has indicated and the fact that we did have 1.2 million, 1.1 million and 907,000 pounds coastwide from 2011 to 2013.

It is certainly not inconceivable that we wouldn't go beyond 10 percent of the cap, which is shown up there in the table; and really all that is is the starting point, anyway. We haven't moved at all. That 907,000 is the zero point. There are a lot of little problems here.

If it were possible, I think the best solution would be to follow the advice of the technical committee, take your 12 percent reduction from 1998 to 2010, then get the working group to figure out how to work around that for states that have situations that other states don't. I'm really not at all taken with the working group recommendations. I'm pleased that they tried to

do all this; but I think the 2010 year causes some real problems.

CHAIRMAN O'CONNELL: Other questions before we perhaps ask for some motions to get us going? Seeing none; anyone have a motion? Walter.

REPRESENTATIVE KUMIEGA: **Mr. Chair, I move that we adopt the working group's recommendations as part of Addendum IV for yellow and glass eels and also the recommendations on state-specific management plans and on the conservation measures.**

CHAIRMAN O'CONNELL: Just to recap that, the motion is to adopt the working group's recommendations for both yellow and glass eels and for the sustainable fishery management plans?

REPRESENTATIVE KUMIEGA: Yes.

CHAIRMAN O'CONNELL: Ritchie for a second. Let's get that motion on the screen and then we will open it up for deliberation. What I'm going to try to do is to try to implement our Robert's Rules of Order with asking one for and one against and try to balance this conversation. You can look at that motion, Walter and Ritchie; does that look good? Ritchie, you're good. The motion is move to adopt the working group's recommendations for yellow eels and for the sustainable fishery management plans. Motion made by Walter; seconded by Ritchie White. Walter, do you want to make a comment to the motion?

REPRESENTATIVE KUMIEGA: Yes. I look at this kind of like a budget deal that has been worked out by an appropriations committee. There is a lot in there that individual states probably don't like, but I think the likelihood of us coming up with something that is more agreeable is almost non-existent.

A lot of work went into this; and I think it is something that at least most of us can live with. When a budget comes to the floor of the House, everybody and their uncle has amendments that they think is going to make it better. The leadership pretty quashes them because once we start changing it and starting picking it apart; it just falls apart and you end up with nothing. I'm afraid if we start trying to change this or improve it or fix it, we're going to fix it to death; and we're going to be here until six o'clock tomorrow night and we won't have anything. Thank you.

MR. WHITE: Walter said it best. Having worked on this as part of the working group; we spent a lot of time and went around and around and around. I think this is the best of a difficult situation. I did want to make one point or ask for a point of clarification. During our working group the state of Maine assured us that as part of the approval of the glass eels; that they would institute the life cycle study.

I just want to make sure that is part of this; that it is mandated that the state of Maine begin and continue to carry out the life cycle study of eels. I don't know if we need to have that as part of the motion or whether if Maine wants to go on the record saying that is going to take place.

CHAIRMAN O'CONNELL: Pat, would you like to comment on that?

MR. KELIHER: It is Maine's intention all along to begin a full life cycle study associated with this fishery. I think it is going to give not only the state of Maine but all states a really good indication on the health of the resource. At the levels that are committed within the working group recommendations, we will certainly support that life cycle study work.

If we start to whittle away at the overall quota, then I would reserve comment for that; but it puts us in a tough place to prioritize that work within existing resources; so anything less than what is on the table would be problematic.

CHAIRMAN O'CONNELL: Thanks, Pat, for clarifying that commitment with the quota that the working group is recommending. All right, I will open up for deliberation. Bob, are you for or against?

MR. BALLOU: I'm against; and I'm against because I am, as I understand it, aware that the working group recommendation was issued subsequent to the – I'm sorry, prior to the technical committee offering their recommendation. There is a very stark difference. I'm speaking now specifically with regard to glass eels, and I'd like to start with that. With regard to the glass eel recommendation from the technical committee, they're recommending a total quota, as I understand it, of 4,658 pounds.

4,658 pounds is the technical committee recommendation, which equates to 9.3 million eels. The working group recommendation is 9,688 pounds, which equates to 19.4 million eels. That is a lot of eels and a big difference between the two. I just find myself wondering out loud are we really prepared to sanction an elver fishery in one state that would be harvesting 20 million eels, which is 20 times the total coast-wide quota or a harvest that we're likely to be seeing with regard to yellow.

It strikes me as being a very, very high number and one that I think can and should be reduced in accordance with the technical committee's recommendation. I would be inclined to not support this recommendation based on the technical committee's report and recommendation; rather I'd be inclined to support their recommendation with regard to glass eels. Thank you.

MR. GILMORE: Mr. Chairman, if you're going to follow Robert's Rules, I'm in opposition to the motion, so do you want to go for support of the motion first?

CHAIRMAN O'CONNELL: Yes, thanks for reminding me, Jim. Rob, are you for or against?

MR. O'REILLY: Against.

CHAIRMAN O'CONNELL: Louis, for or against?

DR. DANIEL: I'll be for. I understand where Bob is coming from with the glass eels. I'm not particularly happy with the glass eel quota in the working group's recommendation; because I feel like that fishery needs some stability for the long term. I just don't see a problem with the current status quo on the glass eel fishery.

Just speaking when I used to be an early life history biologist in marine fisheries and looking at those 20 million glass eels don't give me a lot of concern at all from the population standpoint. The natural mortality rates on those things are so incredibly high that to equate them to one yellow eel I think is really not in the best interest of this fishery management plan.

Does that mean I think we should have a wholesale opening of glass eels; no, but simply because of the potential problems that creates and not necessarily from the detriment to the stock. I also recognize the need to show some good faith effort in reducing harvest in the face of an endangered species listing.

I think, as Walter said, it is about as good as we're going to get on yellow eels. It is less than I'd like to see on glass eels. I would speak in favor of the motion with one final caveat – and thanks to Kate for the clarification at lunch – just to make sure everyone is clear with the aquaculture provision, you would have to show – in order to get 200 pounds of glass eels for aquaculture operations, you would have to show that those eels coming from an area or in a body of water that would not contribute to the overall population.

I think that is going to be an interesting effort. For those states that are interested in pursuing that aquaculture permit, maybe a group of us getting together to discuss how we might do that would be a big help. I'm not exactly sure how we're going to do that, but that approach is going to be approved by the technical committee I think apriori even doing the study. Those are my comments, Mr. Chairman, and I would urge support of the motion.

MR. GILMORE: I'll start off by first off I don't disagree with you, Walter, there is probably going to be losers in this; but as probably the biggest loser on this, I'm going to have to speak in opposition to it. When I left the room in

August and we tabled this until now; I think I was staring down the barrel of a 22,000 quota on a harvest of about 45,000 pounds; so I was trying to figure out we're going to make that work.

One of the suggestions was do transfers or whatever and coming up with different ideas. When the working group came out – and I commend them for the idea of at least a cap for the first year. I think that is a big help; it gives us some breathing room. But, again, at the end of that cap, I'm looking at no fishery.

Again, I've said this at several meetings now, the idea of this was to reduce harvest and not eliminate fisheries, and this almost eliminates New York's fishery. So we're taking, again, a 65 percent reduction if this thing comes down; so we need something else. The something else can be looking at some of those recent landings and using a percentage surrogate of those years to maybe spread out the wealth.

I think some of those numbers may work; I haven't crunched those yet. There were winners and losers; we're the big losers. Louis made an argument at the last one; he said he was taking a 50 percent reduction. Well, because he won the lottery, in 2010 you guys hit a really high number; so, yes, it is 50 percent off of 2010, but it is probably not 50 percent off of your average harvest.

If he hits that number again and he wants to transfer 30,000 pounds to me; I think that will be a great solution for next year. It is really hard for me to support this in general; and unless I know exactly what we're going to do with quota transfers, I really can't support it because I'm not going to have a fishery maybe in 2016. Thank you.

CHAIRMAN O'CONNELL: Thanks, Jim, and understanding your perspective is something the workgroup tried to figure out; but absent your suggestion of looking at some surrogate of recent landings to account for maybe underreporting; we weren't able to come up with anything. Mitch, are you in support or opposition? Go ahead, Mitch.

MR. FEIGENBAUM: Before getting into my main comment, I just wanted to react to Bob's concerns about a 19 million eel harvest in the state of Maine. It was a few meetings ago that Wilson Laney testified about the extraordinary work that the power companies, with the support of the Fish and Wildlife Service, have done on the Roanoke Rapids System.

Then informed us that the average for the two first years that the ladders had been put in place; those ladders as we may recall had been designed to support 30,000 eels a year. These are not glass eels; these are first-year eels; you know, fingerlings that are now pigmented and survived the first year. They expected that ladder to deliver 30,000 eels in a year.

In fact, in each of the first two years the average was something more around the order of 800,000 per year. We know that glass eel mortality estimates range somewhere from the high nineties to the 99.X numbers. But even if we just assume that the survival is 1 percent, and it might much less than that; those 800,000 eels would have represented 80 million eels. 800,000 eels if we assumed that even 90 percent – I'm sorry, that even 10 percent of the glass eels survive; that in fact those 800,00 eels would have represented a glass eel run of 8 million.

That is just on one river. I respect your concerns about numbers; but I guess just putting the natural mortality in perspective with the typical run on a large system, I think adds a little bit more to the picture. That being said, there are many glass eel fishermen in the room here today. I think they would be livid at me if they heard me say that I think the working group's compromises is a reasonable one.

Just last year Maine imposed the first quota on the glass eel fishery that the state's fishermen had ever had. Of course, that resulted in a 50 percent reduction from where they were the previous year. It wasn't officially a 50 percent reduction, but in practice it was a 50 percent reduction. Now, I know the response to that, which is that the '12 and '13 levels were artificially high and therefore that reduction was not as severe.

So be it, they took a big hit; and none of them would want me to say that working group's recommendation seems fair and modest; and as Tom used the exact words "balanced"; but when you consider the socio-economic factors that these folks could talk about much more effectively than me, it does feel like a balance view.

The only other thing I wanted to say was with regard to the yellow eel fishery. I'm not sure how the vote is going to go today – and I'm not going to contribute to that vote, as we all know; but it seems to me that if there is not a positive vote on the yellow eel fishery today, it is only going to be because the state allocations of a quota that might be imposed a year or two down the road are not acceptable to a majority of the commissioners.

If in fact we find ourselves going in that direction; I just would like to recommend that we could leave here today passing the working group's recommendations, establishing a Maine glass eel quota firmly, establishing a coast-wide cap firmly, and letting the public see just how serious we are about further reductions and further conservation of eels without having to have the entire fight about what happens if the cap is reached.

I think I heard one or more folks say we don't want the cap to be exceeded; and hopefully as a group, whether our working group continues to exist as a working group or our commission as a body of the whole, we have three more meetings or four more meetings before we have to see the results of the first year where these numbers are going to matter.

If in fact we can't agree today, there is a lot of time to still work out those issues while still imposing the cap today and leaving here with the comfort that we've made great progress and we've made good accomplishments and that we can satisfy our federal partners that we're taking their concerns seriously, we can satisfy the public we're taking their concerns seriously and at least accommodate through the balanced approach the technical committee's measures.

The final point I'm going to make on that is Rob was asking the questions in the morning session about – he was Sheila like how did we get these reductions; and it was suggested there are management tools, really effective, workable tools that if we establish a cap of 907,000 pounds coastwide, we could get to that cap without having to implement state quotas, whether it be shortening seasons both at the beginning and at the end, increasing size limits even further consistent with some of the conversation this morning. I guess I'm supporting the working group recommendations as a whole because I respect Representative Kumiega's about bargaining and not unraveling a deal. It seems to me if the deal seems like it is going to unravel, we can still establish this cap as well as the Maine quota today and all go home with at least some clarity for the future.

CHAIRMAN O'CONNELL: Assuming that Louis and Mitch didn't change your opinion, Rob, you're up.

MR. O'REILLY: Mr. Chairman, I don't think we should let expediency promote what we're doing here as far as decisions. I would have thought that the yellow and glass eel issues should have been separate issues that we looked at. That is typically what the board tries to do rather than lump them together.

There are certainly some differences to talk about for both; not to mention the reduction scenarios. If I get an opportunity later on, we'll see if we can maybe do that. The other idea is that I can support the soft cap. I recognize that we have another year to take care of what the quota should be. I don't think that I hear a lot of good things about the quotas except for to let's just go ahead and get something done today; and that is the wrong way to do things.

If you didn't listen to Jim Gilmore the problem in New York is with the approach now, you would think that New York, based on the table that was up there from the working group, gets a 13 percent increase; but you're talking about New York going from 13,518 pounds average from 1998 to 2010 up to 15,220. What is being

missed there is New York has a 46,000 pound average for 2011 to 2013.

There are some complications here, to say the least, that we should be able to work out. There is a year's time so I hope that maybe we split that as well. I'm not ready to recommend the quotas as the working group has proposed them for the 2010 situation, using that as an incremental of this, and also – throughout this process, I'm wondering why there is emphasis on the past.

In other words, I would think the last three years of the eel harvest tell us something about the trends along the coast. I understand there are bait problems; that some states don't have the bait. I know you tried to figure that all in; but Virginia does not have a pivotal position here. Virginia could be somewhere from 78,000 to 93,000 pounds, depending on what the outcome is. It is the process that I think, after several attempts get equitable distribution of the quota, that needs some more work. Thanks a lot.

CHAIRMAN O'CONNELL: Being involved with the allocation discussions for about a year now; I think whatever scenario you look at there is going to be a few states that make the same arguments as we're hearing today. I'm not saying that we should have to go forward with this current allocation; but just recognize that if the board continues to discuss allocation, there is always going to be a few states that are going to be making the case that they're negatively impacted. I just throw that out there. The soft cap does get us going in the right direction. The allocation is a struggle given that all the states have very different peaks in their landings. Dennis, are you for or against?

MR. ABBOTT: Walter Kumiega had it right from the very beginning that we should be looking at what was brought before us and looking at it very favorably because if we try to undo it or change it, we will never accomplish anything. I think that we should need to have respect for the work that was done by the subcommittee that we put in place.
I think that we have to look at the people who were on the subcommittee. Terry Stockwell, who has a big oar in this water, glass eels in particular. I can only imagine the heartburn that Terry Stockwell had when they came up with a significant reduction of probably about 1,800 pounds of glass eels representing anywhere from $2 million to $4 million to their economy.

We have to look at the socio-economic problems that are presented by this. Tom, our chair, Maryland had a significant effect on their yellow eel fishery. These people that sat down and did this hard work for us; I think their work needs to be respected. I think that we should support the working group's work and the paper that they presented us and the motion that is before us.

I hope that we can find it in our hearts to vote this because this is just a political thing here; and it is the art of compromise. Everyone doesn't get what they want. I can sympathize with Mr. Gilmore from New York that probably as often happens he seems to be on the losing end of these kinds of things; but maybe there are reasons for that, Jim. That was meant to be lighthearted, Jim.

CHAIRMAN O'CONNELL: Pat, are you for or against? Doug, go ahead.

MR. GROUT: Mr. Chairman, just one clarification; I keep hearing the term that we have this cap for one year; but the way I read the recommendation of the committee is that if we stay under 10 percent – if we stay under the cap continuously, it stays in place; or if we don't go over more than twice up to 10 percent; so it would continue to stay in place. '

I think it gives states an incentive to try and keep within the cap without having to go with the state-by-state quotas, which I was hoping would help out some of the states that are being disadvantaged by going to state-by-state quotas. The other thing is it sounds like the working group's recommendations here is that we would have quota transfers. I think that can help some of the states that have come up short.

Jim, I'm willing to give you a thousand of my 2,000 pounds or maybe that is not allowed on this; but I'd certainly be willing to the same way

I gave you some of black sea bass quota if they will allow me. The other question – and I agree this definitely was a compromise; and I think I give the working group, who I knew had some very strong differing opinions, a lot of compliments and kudos for coming up with compromises here that I took they kind of learned from of our past workings with other species and tried to avoid some of those pitfalls that we got on with some other species. I want to comment them.

I also want to commend the state of Maine for agreeing to again at least in the working group recommendation lower their quota, which I think is heading in the right direction even though it doesn't meet the technical committee's recommendations. I know Ritchie asked Commissioner Keliher – let me put it this way; Commissioner Keliher said it was his intent to start the life cycle study; and I think that is good and should be tied to that 9,000 pound quota. Would you be comfortable with it being a compliance measure that you have to continue to do it as long as your quota is at that level?

MR. KELIHER: Yes.

MR. GROUT: So if we could make that a compliance measure as long as the quota is at that level.

MS. TAYLOR: The motion, as it reads, would accept the glass eel recommendations that the working group put together; and that would include the Option 10 monitoring requirements with some modifications so that any state that has a commercial glass eel fishery that is above 750 pounds would have to complete the life cycle monitoring survey as it is specified in Draft Addendum IV.

MR. GROUT: Good; and as you can tell, I support the working group's recommendations here.

CHAIRMAN O'CONNELL: I don't have anybody on the list – well, let me go through a couple of people who haven't spoken yet. I've got Pat and then Russ.

MR. KELIHER: Doug covered a lot of what I was going to say, so I am not going to bother to repeat it. I would remind the board from Maine's perspective with our glass eel fishery; that we have done a tremendous amount of work which we have reported to the board in the past several meetings regarding our swipe card system, all the rule and law changes that we put in place.

The one piece that I don't want to go unnoticed is the fact that we all but gave up our silver eel fishery back in the nineties in order to move forward with the understanding at the time that we were going to maintain some semblance of a glass eel fishery. Obviously, at the time nobody ever envisioned it becoming what it has over the last several years.

With the silver eel changes to the last three remaining licenses that were grandfathered, they're all but gone based on the changes that we've made now. There is one fishery that even though it was classified as a weir fishery in the state of Maine; that harvest is actually done prior to the September 1 date as defined within the addendum.

We have now completely eliminated all of our silver eel fisheries in the state, which I think is also a step in the right direction as far as the sustainability of the species. Frankly, I'm reluctantly in favor because I wanted to see status quo with our fishery with all the work we did; but in the spirit of compromise and trying to move forward, at this time I'm willing to support the motion.

CHAIRMAN O'CONNELL: Roy, did you want to speak in support or opposition?

MR. MILLER: Mr. Chairman, I had a question concerning the issue that was raised about the 750 pounds. I need some clarification, if that can be handled quickly. Who does that refer to? In other words, what state would have a glass eel harvest under 750 pounds other than South Carolina or Maine?

CHAIRMAN O'CONNELL: It would be South Carolina and then if a state came forward with a

plan that the board would allow a development of a glass eel fishery, if that glass eel fishery went above 750 pounds, that would also have to do a life cycle study under the sustainable fishery management plan or Option 6, which is the stock enhancement program under the glass eel fishery. Right now it would only impact South Carolina; but there is the potential for other states to develop a glass eel fishery; and if those fisheries exceeded 750, they would have to do a life cycle study.

MR. MILLER: May I follow up just to comment? I think it is a poor idea to open a glass eel fishery for any state that is thinking about doing so – contemplating one less than 750 pounds. I say that not from a biological standpoint but just from an enforcement standpoint. I think it opens too many doors to poaching and monitoring and enforcement; and that would concern me.

MR. RUSS ALLEN: Mr. Chairman, just to say a few things about the working group; and as you know and is well documented, New Jersey was against having any type of catch cap in the beginning. We were also against getting any kind of quota. For me to be a part of that working group and to come back to our fishermen with a cap and a quota; it doesn't go over very well.

But I thought that was part of what we were trying to accomplish as a working group to come up with the best options we could possibly come up with. Through hard work, as other people have already said, we did that. I don't think that we can sit back now and say, okay, well, let's try to change the way we came up with the allocations for all the different states.

It is really not going to affect New Jersey all that much overall; but it could affect other states and make them either bounce one way or the other. I thought the working group did a fine job trying to come up and take care of everybody and every state as best they could with those recommendations. Again, I want to thank everybody that was a part of that.

The best part about that was having that face to face; because without that, I don't think we would have even got this done. It hasn't been we just came up with some new numbers here to do this. We've been talking about this quota and cap system since a year and a half or two years now. I don't think it is going to get any better.

I appreciate Walter and his viewpoint on making sure that if we do this, this is it. I mean, we're not going to go through this again. I don't want to be a part of a working group to come up with another set of numbers and do this again. That is two already that we've done. I'm just hoping that we can move this forward. I think everybody did a great job; and I hope that is the way it works. Thank you.

CHAIRMAN O'CONNELL: Before I come back to people that have already spoken, and I have Craig and Adam. Craig, are you for or against?

REPRESENTATIVE MINER: I've not yet reached a decision; I have a question. When I look at the numbers, one of the things that kind of jumps out at me is that if we adopt a set of guidelines that is so far away from what the most recent norm has been, what is the message? Now, I think from the standpoint of conservation, there is certainly a message to that.

When I look at the state of Maine in terms of the effort that they've made in the last couple of years to get a handle on what I think we've all understood to be a pretty significant illegal harvest in many cases and worked very hard to get people licensed, regulated and under the control of an agency; what is the message now?

Is the message now going to be we went along with this in an effort to try and have some sustainability of what we thought the numbers would be and now it is far less? I think most people I would hope would be honorable and live within the framework of the rules that we have; but it is such a reduction that I wonder whether we're going to have the conservation impact that we're hoping for; or is that going to go the other way, whatever savings we have assumed in the management is not actually

going to be the fact; that there will be a lot of illegal activity.

I'm not on the law enforcement end so I don't know where the numbers are. I know when we talk about licensing, if we have a doubling of a license number, there are some statistics that clearly state that you'll have a percent reduction in the amount of licenses purchased so you have illegal fishing with unlicensed fishermen. Those kinds of assumptions are out there. I don't know whether we take that into account when we make these adjustments here.

CHAIRMAN O'CONNELL: Adam, are you for or against?

MR. NOWALSKY: I'm against. I've listened very carefully to the comments here; and my next comment comes with great consideration of the work that was done by the working group. I have to preface it by saying that with our earlier comments about not being able to put a tangible benefit on what a significant cut from recent landings would mean; I can't leave here, looking at the people in the audience, the number of public comments, and people in the home state, saying this is how we're going to go forward with that.

To that end I would like to move to amend the motion as it currently is with a modification to the yellow eel. I would move that we use the soft cap with a number of 978,004 pounds. We would use Trigger Number 2 if we exceed it in two years; and the allocation we would fall back on was the allocation schedule as set sort in Option 2-A in the document.

CHAIRMAN O'CONNELL: All right, we'll get that typed up on the screen. Emerson seconds the motion. Adam, just for clarification, Option 2-A as described in the addendum versus the work group's recommendations?

MR. NOWALSKY: Yes, the work group recommendation for allocations were based on a number around 907,000; 2-A is 980-something-thousand and provides the breakdown of the percentage and the state-by-state poundages there as well.

MS. TAYLOR: Adam, just to clarify, the 2010 landings here which would be the soft cap of 978,004 pounds; if this was tripped after two consecutive years of exceeding this quota, then we would revert to Option 2-A, which specifies the quota is actually 986,000 pounds.

MR. NOWALSKY: That was the closest I could come to something, recognizing that the working group wasn't an exact match for the numbers, also. They were off by a couple thousand pounds; and that was the closest I could come to something that I thought matched the number that we had.

CHAIRMAN O'CONNELL: Thanks, Adam; we're just asking for clarification on that. When we get that motion on the screen, let's take a look at it and see if we've captured that thought. Move to amend to use soft cap of 978,004 pounds and Trigger Number 2 from the working group recommendations. If the cap is exceeded in two years, then the allocation would be as specified as Option 2-A from Draft Addendum IV. Motion by Mr. Nowalsky and seconded by Mr. Hasbrouck. Does that look good, Adam?

MR. NOWALSKY: Yes, thank you.

CHAIRMAN O'CONNELL: All right, we've got deliberation on the motion. Ritchie.

MR. WHITE: Speaking in opposition; and I would just remind the board that the task to the working group was to come up with an option that was 907,000 pounds; and the majority of the board voted for that. The majority of the board supported 907,000 pounds at the last meeting; and this clearly exceeds that by a substantial amount. I just think that the whole working group plan starts to fall apart when we go down this road because then there will be another amendment, another change, and it will fall apart. I strongly oppose.

CHAIRMAN O'CONNELL: Other comments? Jim.

MR. GILMORE: It kind of goes to both motions. I was going to ask you before this was made, but say we get to the end of either the year or the two years with either one of these motions – and then in the past when we've done allocation schemes there was an ability to correct it based upon new data; and there was two ways to do that.

There was either to submit data that would just be considered at the board and then there would be a reallocation based upon that that; or, there it would have to go through a full addendum process. If we get to the point where we go to a quota and that – all right, in my situation I'm very clearly going to have good data that is going to say I need to change my allocation. How are we going to go about doing that? Is that going to have to be through a full addendum process or is that something that could be handled in a shorter, you know, maybe individual board discussion?

CHAIRMAN O'CONNELL: Jim, if I understood you correctly and I guess maybe something the board to think about is if we go forward with an allocation scheme; is there a provision in which a state can come forward with documentation of updated numbers that could result in a potential allocation change; and if so, that would have to be another addendum or not. We will give that some thought. Rob, are you for or against?

MR. O'REILLY: I'm against. It is an improvement in some cases. If you're strictly looking for improvements, for Virginia it improves things. Instead of a 24 percent reduction or 23 percent reduction, it is 14 percent. New York is almost a 50 percent reduction to Signal 2. It states there the problem; I agree you've got the 907,000 as the standard, 907,669 which the working group came up with. I certainly disagree with some of the data they used and I'm sorry about that; but 2010 was a poor choice to put into any of these analyses. I can't support this one either.

CHAIRMAN O'CONNELL: Louis, are you for or against?

DR. DANIEL: I'm against.

CHAIRMAN O'CONNELL: Mitch, are you for or against? Go ahead, Mitch.

MR. FEIGENBAUM: I want to thank Adam for making that motion. I think that motion shows a lot of sensitivity to commercial fishermen in the eel industry who are among some of the least wealthy, least prolific fishery participants in what is really one of the smallest fisheries managed by this commission.

I'm very mindful of Ritchie's point that if we start altering the working group recommendations, it might be a road that we go down that we can't get out from under. I know everyone is mindful of that; nonetheless, if I believe this is substantively a better approach, I think I have to speak for it; so I'm speaking for it. The number of 978, obviously it is 7, 8 or 9 percent higher than what the working group is recommending.

I think from some of my questions this morning, I made clear that my position is that this fishery – and there is a lot of evidence to this effect; but that the fishery is not a substantial cause of declines in eel populations. I understand that being the case we still have to do things to restrain this fishery in order to satisfy public sentiment and sentiment from some of our federal partners.

The key is to remember that when you don't look at the landings from '98 to 2010, but look at the landings for as far as we've been measuring them significantly; that takes us back to like the sixties, seventies and eighties. This is a fishery that existed in the range of two to three million pounds a year for much of that time.

The overwhelming message that I've received from the various attempts at stock assessment, whether it be in the U.S. or Canada, whether it be the federal agencies or ASMFC is that – and one of our technical committee chairmen, also Brad Chase, who made very clear that the DBSRA model reflects the fact that when catches are low for a long period of time, we can assume that populations are going to be higher

in the ensuing years; and when catches are very high for quite a few years in a row, we can assume that populations are going to be lower in the ensuing years.

It is not really rocket science. That is what DBSRA tells us; that we've had a series of fishing up and fishing down events; and the fact remains, colleagues, that we're now in the midst of a 15-year trend where we've really been at the low end of historical catches. Again, in 13 years I think we've never gone above 1.2 million pounds.

You have to back 10 and 20 years earlier before we were in those kinds of numbers; so locking in a coast-wide cap at 978 versus 907,000; it is a lot of window dressing but substantively it is not really changing things. Finally, I do think that no matter how the board votes on this, relying on only Trigger 2 is far superior than the two triggers.

The year 2014, the year that we're currently in, I can almost assure my colleagues on this commission that the total harvest coastwide is not even going to exceed 600,000. Last year, 700,000, we're not going to reach those numbers the way this season is going. It has nothing to do with catch. It has nothing to do with stocks. It is purely economics pure and simple. The price of eel is right now at a long-range low. Effort is way down.

We've heard anecdotal evidence from state after state about people that haven't been fishing. If we have a 500,000 harvest this year then next year we have a 999,000 harvest, that means our two-year average was something like 600, 700,000, well within the range we want to be. Yet the way the working group recommendations are read, we would have to immediately implement a quota after 2015 if those harvests went up to the 990,000 without taking into account that just one year earlier we were at 400,000. I think that basing the trigger on a two-year analysis as opposed to one is a significant improvement. Thank you.

DR. DANIEL: I think the 907,000 was the direction from the board at the last meeting; and we're heading in a direction of going home with nothing again. An attempt to substitute a moratorium; maybe that would get people moving a little quicker. To go now to something substantially at least the original technical committee recommendation; that is substantially higher than the most recent technical committee recommendation, I believe, which was another 16 percent below the 907, I think.

You're going to lose a lot of votes just because of that; that is so contrary to the technical committee's position. I didn't get the trigger situation quite like Mitch did; that you would have to exceed by 10 percent in a year and then exceed again in a year it wouldn't average out. If that is the way that it would work, that is a different question. I think we've got to at least stick with the original technical committee guidance on the 907 or else we're making a big mistake.

MR. CLARK: I just wanted to say that the cap that Adam suggested there was actually the first soft cap that the working group discussed. I was very much in favor of that, but the great thing about working with the working group was we got the full range of opinions there and what kept coming through clearly was how many people could not support a cap that was not based on the technical committee recommendation.

That is why we moved to using the technical committee recommendation with the 10 percent buffer on that, which is actually higher than the 978. I was also in favor of going for the two years; but through the compromise we went through, we came up with that one-year cap. It is not perfect. I know nobody is thrilled with what we came up with, but I think given the circumstances it does pretty much what you want it to do with your amended motion except for the one-year trigger there. Thank you.

CHAIRMAN O'CONNELL: I don't have anybody else on my list here. Let's take a 30-second caucus and vote.

(Whereupon, a caucus was held.)

MR. ABBOTT: Mr. Chairman, could I request a roll call vote?

CHAIRMAN O'CONNELL: Sure. Bill.

MR. WILLIAM A. ADLER: Are you going to let the public comment on this or what?

CHAIRMAN O'CONNELL: After this, we will consider that but not right now. All right, a roll call vote was requested so Kate is going to go through that.

MS. TAYLOR: Maine.

MAINE: No.

MS. TAYLOR: New Hampshire.

NEW HAMPSHIRE: No.

MS. TAYLOR: Massachusetts.

MASSACHUSETTS: No.

MS. TAYLOR: Rhode Island.

RHODE ISLAND: No.

MS. TAYLOR: Connecticut.

CONNECTICUT: Yes.

MS. TAYLOR: New York.

NEW YORK: Yes.

MS. TAYLOR: New Jersey.

NEW JERSEY: Yes.

MS. TAYLOR: Pennsylvania.

PENNSYLVANIA: No.

MS. TAYLOR: Delaware.

MR. CLARK: This is the amendment, right?

MS. TAYLOR: This is the amended motion.

DELAWARE: No.

MS. TAYLOR: Maryland.

MARYLAND: No.

MS. TAYLOR: District of Columbia. (No response) Potomac River Fisheries Commission.

POTOMAC RIVER FISHERIES COMMISSION: No.

MS. TAYLOR: Virginia.

VIRGINIA: No.

MS. TAYLOR: North Carolina.

NORTH CAROLINA : No.

MS. TAYLOR: South Carolina.

SOUTH CAROLINA: No.

MS. TAYLOR: Georgia.

GEORGIA: No.

MS. TAYLOR: Florida.

FLORIDA: No.

MS. TAYLOR: U.S. Fish and Wildlife Service.

U.S. FISH AND WILDLIFE SERVICE: No.

MS. TAYLOR: National Marine Fisheries Service.

NATIONAL MARINE FISHERIES SERVICE: No.

CHAIRMAN O'CONNELL: **Motion fails; thirteen opposed, three in favor. We're back to the initial motion. I'm sorry; I was corrected; fifteen opposed, three in favor.** Emerson.

MR. HASBROUCK: I have to speak against the motion. I appreciate all the hard work that the working group did on this; but I can't go back to New York with greater than a 50 percent cut from what our harvest has been. Also, in terms of what the total quota may be, there isn't anything magical really about 907,000 pounds or 978,000 pounds or some other number that is similar to those. We heard from the technical committee earlier that the reduction was based on just taking into account or making up for the variance in the annual landings; so there is nothing magical about that quota in terms of what it is going to do for the resource.

CHAIRMAN O'CONNELL: I go back to Bob for a second time around.

MR. BALLOU: I have a question regarding what is embodied in this motion with regard to aquaculture. As I understand it, it includes a recommendation to move forward with Option 8, aquaculture permitting; as well the sustainable fishery management plans, which have an aquaculture plan provision or option.

When I read those two, I'm not sure they're saying the same thing; so I'm wondering what this motion would actually allow for with regard to glass eel fisheries for aquaculture purposes. Option 8 is very broad. It simply says that under this option any harvest of glass eels for commercial aquaculture purposes must be done under an aquaculture permit.

It doesn't say anything along the lines of – or reference, I should say, domestic aquaculture facilities; so it is seems to me it could be as open-ended as allowing for the glass eel fishery that currently exists in Maine, which as I understand it ultimately is for aquaculture purposes, albeit overseas.

I'm just concerned about the open-ended nature of Option 8, what it actually allows for since it just simply broadly allows – since it states in the addendum that an aquaculture permit can be granted for commercial aquaculture purposes with really no other strings attached. I would just note that in the addendum it is noted that it is not possible at this time to propagate American eels in captivity; and as such that option is not recommended by the technical committee. Notwithstanding that technical committee comment, I'm really mostly interested in what this option would allow a state to do given its open-ended nature. Thank you.

MS. TAYLOR: As to the Option 8 aquaculture permitting, I can speak for the PDT that the intention there was for domestic aquaculture purposes. It was not targeting, say, a Maine glass eel fisherman that was selling to a dealer for then shipment overseas for aquaculture purposes. It was specifically for harvesting where that harvest is going directly to an aquaculture facility domestically.

That was the intention of the PDT; and the board can certainly provide that clarification if they would like to include that. With the aquaculture plan, this is allowing 200 pounds to be harvested; and there are a number of specifications that states would have to submit in order to have a plan approved by the technical committee or recommend approval by the technical committee to the board before the plan could be implemented.

MR. BALLOU: Thank you, Kate, for that; and I would say therefore in my view Option 8 should be struck from this motion. It seems to me the aquaculture plan provision under the sustainable fishery management plans covers the issue with more specificity, more clarity and with the sideboards necessary I think to move forward appropriately.

I'm just concerned about – and I appreciate the explanation, but it is not in the addendum. It is really sort of an anecdotal comment as to what was intended; and unless we can get something on the record that clarifies or corrects that, my suggestion is we strike Option 8 from this motion. Thank you.

CHAIRMAN O'CONNELL: Well, let's see if others comment on that; and if be, we can come back to that, Bob. Dennis.

MR. ABBOTT: Mr. Chairman, if you believe as I believe that we've probably had enough

discussion on this matter; would you now think that it would be time to bring this to a vote?

CHAIRMAN O'CONNELL: I think we're getting there. I don't have anybody else on my list. I've got Marty.

MR. MARTIN GARY: Mr. Chairman, I'm trying to be a good listener here today. I'd like to speak in favor of the motion. Before I do that, I would like to reiterate what others have said and thank the workgroup for their hard efforts on the plan. I would like to speak in favor of the motion even though with regard to yellow eels, if the trigger is fired, there could be significant impacts to PRFC. Part of the reason why I don't have misgivings about that is I don't necessarily like the trends that I'm seeing in the river.

It may not apply to other jurisdictions, but PRFC's long-term landings are closure to a quarter million pounds. We've had highs in excess of 600,000 pounds in the river. We're nowhere near that in recent years. In fact, we are near all-time lows. The time frame from '98 to 2010 is front-end loaded so the impacts that are contributing to a large negative delta if the trigger fires is because of the harvest in the years '98 through, say, 2001; but in recent years we're not seeing anywhere near that.
It certainly wouldn't be at the core of our mission statement to be an inherence of that to conserve and enhance our resource to take a less – you know, I'd be okay dealing with that trigger if that came to fruition. I just don't like what we're seeing in the river with yellow eels. I do agree with Bob that I don't think the plan goes far enough with glass eels; and I do agree with Rob it is unfortunate that the plans are bundled together.

In the effort to have some progress, any progress, I would just encourage the board to consider this and let's move this forward. Let's have some progress forward. Since I came here and relieved my predecessor, A.C. Carpenter, I've heard nothing but feedback from the staff that this animal needs some at all life stages; and we have the ESA listing in progress. The signals are pretty clear. There is some uncertainty; but it is less than optimum, for sure; and I would like to see some progress, any progress, and I'd speak in favor the motion. Thank you.

CHAIRMAN O'CONNELL: I've got Rick Bellavance and then I think what I'm going to do is I'm going to provide a brief opportunity for the public and then we'll come back to the board.

MR. RICK BELLAVANCE: In general I do support the motion. There is just one little part of it that kind of rubs me a little bit is the exemption for the reporting requirements for states harvesting less than 750 pounds. I guess I feel like we're moving in a great direction with swipe card reporting systems and modern technology that can be used inexpensively to create daily trip reporting and timely data collection.

I see examples like that and it just makes me think we're going down the wrong road. We're trying to get better data and not less data. That is the only part; and I just want to make that as a comment more than anything. Maybe as these tools develop, those states will voluntarily jump on to them; but putting something like in there just seems counterproductive in my mind.

CHAIRMAN O'CONNELL: Before we go to the public, in regard to your question, Bob, about Option 8, Kate's suggestion would be to either add "domestic" to Option 8 or strike Option 8. We can come back to that perhaps after listening to the public. Those that are in the public audience; how many would like to speak, if you could raise your hands.

PUBLIC COMMENT

CHAIRMAN O'CONNELL: We're going to provide a brief opportunity for public comment. We've already taken this plan out to public comment; so I would ask that you keep your comments to less than two minutes. If there is a representative from your industry that could speak on behalf of a couple or more of you, that would be great.

MR. ARNOLD LEO: Arnold Leo. I am a representative of the fishing industry of the Town of East Hampton, Long Island, New York. My concern with the motion that is up before is that as it points out in the draft addendum itself and discussing Option 8, it is going to create a derby fishery, which, of course, tends to glut the market, drive the price down and results in reaching the end of the quota early; thereby very much being inequitable for the fisheries that depend on fishing later in the season. It seems to me an extremely unwise fishery management approach; and I would oppose it. Thank you.

MR. PIERCE: Thank you, Mr. Chair, for allowing public comment. My name is Jeffrey Pierce. I represent the Maine Elver Fishermen's Association. We're uncomfortable with this. We've gone through a lot of cuts. In the late nineties we did a 75 percent gear reduction in this fishery. In the early 2000's we did a 70 percent license reduction in this fishery. Last year we addressed a very difficult subject of poaching. We worked with Commissioner Keliher and you guys for a 40 percent reduction. It seems to us no good deed is going unpunished.

We feel we're being punished with an 18 percent reduction again. There are 500 guys in this fishery that have less than three pounds. You're going to take 18 percent from them? It just doesn't seem right. I think Maine should stay status quo for the next three years to give some economic stability for our buyers and our industry.

We have a potential client of industry coming to Maine for a grow-out facility. If we keep getting cut, why would they come? We've already seen a reduction and halving our price in the last two years. We look at the low quota numbers from the early 2000's, that is because there was no price; nobody fished; there was no effort. We just feel like we're being punished again. Thank you.

MS. JULIE KEANE: My name is Julie Keane. I'm from Maine. I've been an elver fisherman for 22 years. Last year I lost two-thirds of my income with the cuts; and I'm very distressed by all this. We were put on the quota system and our commissioner wisely held back 500 pounds; so that is 500 pounds that nobody could catch.

There were people that were very bad and they're lost their license to fish last year. They get them back this year. Their quota was kept back; we weren't allowed to have that. We also had people in the industry that just started fishing that didn't know what they were doing; so they didn't catch their quota either.

We're being given a quota based on what we caught last year; and we have people coming with licenses that they lost last year; but now that now we've got to share that with. I just don't know how many more cuts we can endure. There is no other work where I live at all except for digging clams and picking periwinkles. I'm too old to do that anymore; and I'm just really scared. I care deeply about the eels in the future. I'm a conservationist at heart.

I fight with our commissioner all the time about other things that I would like to see left alone. I support all the work that has gone into this. I hope we have a future in all our states for our eels. I have seen biblical runs of eels in the last three years where I couldn't even believe it; and I wish to God I had had a camera.

I would encourage somebody somehow to find some money to send a federal observer. I know that money is tight everywhere; but if we had a federal observer and we could say please come to the river, come because when they run like that, they run for maybe three or four days. People would be shocked if they could just see what we're seeing.

CHAIRMAN O'CONNELL: If you could just wrap up your comment, please; thank you very much.

MS. PATRICIA BRYANT: My name is Patricia Bryant. I am from Nobleboro, Maine. I have been a glass eel fisherman since 1978. I've fished for approximately 25 years and as general manager for W.R. Livingston Eel Farm for a couple of years in the mid-nineties. This fishing industry has been my entire life. I have for the

last several years – since 1998 I have been an independent buyer/exporter as well as fisherman.

I do agree Commissioner Keliher did a really good job last year volunteering our quota. We kept that. We could not fish our quota simply because we weren't allowed to fish our quota; because the people who held licenses that had their licenses suspended, like Julie was saying, we never got credit for that and we couldn't fish those eels.

That's why the fishery was down to the number that it is. Unfortunately, if we do have to take this particular digger again – and I didn't understand the part about wanted to keep this where you said that you're afraid poaching would be – you kept the number the low because you were afraid this would increase the poaching.

Well, if the numbers by being reduced is going to increase the poaching; then why are we reducing numbers because then you're just going to increase the poaching? This is going to make just a tremendous hardship on not only the fishermen but on the exporters and the entire industry as a whole. It really seriously not necessary. We've done a good job. We can keep it below the quota.

I don't see any reason. Over the years I've seen ups and downs and a 10,000 pound quota, before we had the report, was not a big deal. You're using reported landings from 1990 to 2010; and I think it is only four of those years was mandatory reporting. A lot of people didn't report because it wasn't mandatory; so I don't think it is even right to use those particular numbers. I appreciate your time and thank you very much.

CHAIRMAN O'CONNELL: Thanks all of you who have come from the public to listen to our deliberations today. We're going to bring it back to the board deliberation on the motion. Bob.

MR. BALLOU: **Mr. Chairman, I would like to move to move by striking Option 8 from the main motion.** If I get a second; I would just like to add a clarifying comment.

CHAIRMAN O'CONNELL: I've got a second by Dan McKiernan; move to amend by striking Option 8 from the main motion. Motion by Mr. Ballou and seconded by Mr. McKiernan. Bob.

MR. BALLOU: Again, I just want to emphasize for the board's edification that I do think aquaculture initiatives might be worthy of pursuit. I just think that they're better addressed under the aquaculture plan provisions under the sustainable fishery management plans, which already part of the main motion. This is just a way of clarifying what we mean by aquaculture with regard to glass eels. Thank you.

CHAIRMAN O'CONNELL: Walter, do you support or oppose?

REPRESENTATIVE KUMIEGA: I was going to ask if you – I'm willing to accept it as a friendly as is Mr. White. If you want to ask for objections from the board and if there none, we can just accept it.

CHAIRMAN O'CONNELL: Since we have the motion on the table, let's finish the deliberation; and if there is no objection, we can nail this quickly. Anybody else that wants to comment on the amendment? All right, seeing none; is there any objection to the motion we do a roll call vote? **All right, seeing none, the motion carries.** This motion carries and it becomes part of the main motion. We've had quite bit of deliberation on the main motion. Not seeing any hands raised; let's take a 30-second – Rob.

MR. O'REILLY: We have had some conversation here at the table; and although it is disappointing that none of the tables – I went back through again just to make sure. None of the tables that are in our document or that the working group looked at used the 1998 to 2010 baseline for reductions.

Although that is disappointing – although it is disappointing that 2010 has had such a prominence, I think at the same time, after listening to comments around the board, that this

is a starting point for everyone. I don't think we should say this is progress. I think we should say this is setting a standard and then we're going to monitor the standard.

I hadn't commented on the glass eel issue, but a couple of practical things that stick with me; I don't think we've decided yet or had the information as to natural mortality versus fishing mortality with glass eels. I brought this up a year and a half ago. I used to correspond with Dr. Brian Jessup in Canada about this issue.

I know when I brought it up that Mitch Feigenbaum had mentioned it is system-specific. I heard some comments today that probably with that type of a system we're looking at through Maine; that maybe is part of the natural mortality. I think that is an issue that some point needs to looked at. It is a tough issue to look at; I recognize that.

On a practical standpoint about glass eels, although I know the technical committee recommendation varies widely from what the working group did, I do understand the effort Maine has made. I also understand just listening to New Hampshire, which probably a year ago was not thinking the same way about what was going on with poaching and law enforcement and everything else; that there certainly had to have been some really marked improvements; and I think that has been recognized several times. I do think we're setting standards for both the glass eel quota and as well as for the soft cap for yellow eel and we'll just to see how those standards stand for the future. Thank you.

CHAIRMAN O'CONNELL: All right, let's take a second caucus and we will do a roll call vote.

(Whereupon, a caucus was held.)

CHAIRMAN O'CONNELL: **All right, move to adopt the working group's recommendations for yellow and glass eels and for the sustainable fishery management plans, excluding Option 8 for glass eels.** We're going to take roll call vote. Kate.

MS. TAYLOR: Maine.

MAINE: Yes.

MS. TAYLOR: New Hampshire.

NEW HAMPSHIRE: Yes.

MS. TAYLOR: Massachusetts.

MASSACHUSETTS: Yes.

MS. TAYLOR: Rhode Island.

RHODE ISLAND: Yes.

MS. TAYLOR: Connecticut.

CONNECTICUT: Yes.

MS. TAYLOR: New York.

NEW YORK: No.

MS. TAYLOR: New Jersey.

NEW JERSEY: Yes.

MS. TAYLOR: Pennsylvania.

PENNSYLVANIA: Yes.

MS. TAYLOR: Delaware.

DELAWARE: Yes.

MS. TAYLOR: Maryland.

MARYLAND: Yes.

MS. TAYLOR: District of Columbia. (No response) Potomac River Fisheries Commission.

POTOMAC RIVER FISHERIES COMMISSION: Yes.

MS. TAYLOR: Virginia.

VIRGINIA: Yes.

MS. TAYLOR: North Carolina.

NORTH CAROLINA : Yes.

MS. TAYLOR: South Carolina.

SOUTH CAROLINA: Yes.

MS. TAYLOR: Georgia.

GEORGIA: Yes.

MS. TAYLOR: Florida.

FLORIDA: Yes.

MS. TAYLOR: U.S. Fish and Wildlife Service.

U.S. FISH AND WILDLIFE SERVICE: No.

MS. TAYLOR: National Marine Fisheries Service.

NATIONAL MARINE FISHERIES SERVICE: No.

CHAIRMAN O'CONNELL: **The motion carries fifteen for and three opposed.** Jim.

MR. GILMORE: I was going to suggest that one step we need to take would be to handle the quota transfer issues, which will near and dear to New York's heart now. I would have a motion if you're ready for that unless you want to do something sooner.

CHAIRMAN O'CONNELL: In regards to yellow eel quota transfers, included in the workgroup's recommendations was to allow quota transfers. The last motion approved the transfer provision. I think the next step is to look at compliance requirements with submitting plans; so I'm going to ask Kate to go over that, please.

MS. TAYLOR: Just so the board is aware, as specified under Addendum III, January 1, 2015, the dealer and harvester reporting will go into effect. The working group recommendations specified that the states and jurisdictions will be required to approve the regulations for the implementation of any quota management, should it need to be implemented, by March 2016. In order to meet that timeline, states will need to submit for the annual meeting next year in Florida their implementation plans to meet those regulations.

CHAIRMAN O'CONNELL: Kate, is there anything in regards to the glass eel fishery given that Maine's quota will change from 2014? Do they have to submit a plan?

MS. TAYLOR: If we could likely have an update from Maine at the February meeting or just submit the regulations as you will be working on them probably likely at that time to meet the requirements; that would be helpful.

CHAIRMAN O'CONNELL: So is everyone clear that moving forward states need to begin developing some rulemaking so if a trigger is tripped related to the yellow eel coastal cap; that we will be in a position to implement the state-by-state quota allocation by March 2016. When you go back, begin developing your rulemaking to come before the October 2015 annual meeting for approval. Walter.

REPRESENTATIVE KUMIEGA: I just had a question based on the stock enhancement programs, which is Option 6 under glass eel harvest. Is that under the state-specific – could that be applied to the yellow eel fishery under the state-specific sustainable fishing plans?

CHAIRMAN O'CONNELL: Walter, I missed the first part; are you asking whether or not states have the ability to submit a plan –

REPRESENTATIVE KUMIEGA: If stock enhancement programs could be applied to the yellow eel fishery as well as the glass eel fishery?

CHAIRMAN O'CONNELL: That is not allowed under that option for glass eels; but under the sustainable fishery management plans,, they could submit a plan related to yellow eels. What we need to do is we need to approve Draft Addendum IV as modified today. Bill.

MR. ADLER: Yes, I'll make the motion to approve it as modified today. I do have a question.

CHAIRMAN O'CONNELL: And Kate just reminded me what we need is as modified today and at our August meeting because it pertained to silver eels. We'll get that up on the screen and make sure you're comfortable with it. Do we have a second to that motion; Pat from Maine. We have a motion; move to approve Draft Addendum IV as modified today and in August 2014. Bob.

EXECUTIVE DIRECTOR BEAL: Just a couple of points. Since this is a final action by this board, a roll call is required and any meeting-specific proxies are not eligible to vote on this motion.

MR. ADLER: If I could just return to the compliance thing, I did not understand – you said 2016; so does that mean that the – we're in 2014 – okay, does that mean that the 2015 year will be status quo or the new rules?

CHAIRMAN O'CONNELL: For yellow eels the 2015 season will be under the soft cap; but knowing that there is a trigger with the 10 percent; that if we exceed the coastal cap by 10 percent, we are going to implement a state-by-state quota for the 2016 season – to prepare for that possibility, states need to develop their rulemaking to be allowed to implement a state-by-state quota in 2016 if that trigger is tripped.

MR. ADLER: How about the glass eels?

CHAIRMAN O'CONNELL: For glass eels, for 2015 their quota will be reduced to the working group recommendation. All right, we need a roll call vote. Since we have not had unanimous support, let's do the roll call vote on the addendum.

MS. TAYLOR: Maine.

MAINE: Yes.

MS. TAYLOR: New Hampshire.

NEW HAMPSHIRE: Yes.

MS. TAYLOR: Massachusetts.

MASSACHUSETTS: Yes.

MS. TAYLOR: Rhode Island.

RHODE ISLAND: Yes.

MS. TAYLOR: Connecticut.

CONNECTICUT: Yes.

MS. TAYLOR: New York.

NEW YORK: Null.

MS. TAYLOR: New Jersey.

NEW JERSEY: Yes.

MS. TAYLOR: Pennsylvania.

PENNSYLVANIA: Yes.

MS. TAYLOR: Delaware.

DELAWARE: Yes.

MS. TAYLOR: Maryland.

MARYLAND: Yes.

MS. TAYLOR: District of Columbia. (No response) Potomac River Fisheries Commission.

POTOMAC RIVER FISHERIES COMMISSION: Yes.

MS. TAYLOR: Virginia.

VIRGINIA: Yes.

MS. TAYLOR: North Carolina.

NORTH CAROLINA : Yes.

MS. TAYLOR: South Carolina.

SOUTH CAROLINA: Yes.

MS. TAYLOR: Georgia.

GEORGIA: Yes.

MS. TAYLOR: Florida.

FLORIDA: Yes.

MS. TAYLOR: U.S. Fish and Wildlife Service.

U.S. FISH AND WILDLIFE SERVICE: Yes.

MS. TAYLOR: National Marine Fisheries Service.

NATIONAL MARINE FISHERIES SERVICE: Yes.

CHAIRMN O'CONNELL: **Okay, the motion carries seventeen for, none against, and one null vote.**

OTHER BUSINESS

All right, we have one other item under other business that was brought before us by the public in regards to turbine mortality. I asked Kate just to provide kind of an overview of how the commission is handling turbine mortality issues and perhaps we can provide an additional update at our next meeting.

MS. TAYLOR: I would just like to refer the board members back to Addendum III, which does have a section for habitat recommendations. In that it is included that the technical committee should work with the appropriate ASMFC committees to develop materials to support states interested in making recommendations to the Federal Energy Regulatory Commission for upstream and downstream passage provisions for American eel in the hydropower licensing and relicensing process.

Additionally, our FERC Working Group and our Fish Passage Working Group and our Habitat Committee all do at some point address some of these issues. I can have our technical committee work with these organizations and we can provide an update on what progress has been made and what recommendations can come from this group at the next board meeting.

MR. ADLER: I think that is fine and I think it is an important part of this whole thing; but do we have any expectation that we will get anywhere with this and what will they – whoever they are – what they will be willing to do about it. I know we are all for doing something and we will press through letters or meetings or whatever; but do we have any expectation that we will get something out of this? I would hope we would but I don't know.

CHAIRMAN O'CONNELL: That's a really good question. If we're going to invest the time to try to influence some of these policy changes, we also need to evaluate how successful or not successful we are. If we're not being successful, we've got to think about different strategies to address this issue.

I think it would be good, as our commission's teams and as our state teams begin to address issues, to try to figure out a way how we can evaluate how successful in advocating these issues and provide that to the board periodically so we can determine if we need to change course or not. Pat.

MR. KELIHER: I think the issue of turbine mortality is one of the most serious issues that the specie faces. I think the Habitat Committee and the Fish Passage Working Group can play a strong role here; but this really boils down to state-by-state actions when we're dealing with FERC relicensing. Turbine mortality has been one of the most difficult issues for us to deal with per license and per hydropower facility. Each facility is very, very unique.

Eels travel through each facility at different water heights; and depending on if is a bottom-fed turbine or depending on how tail races are configured, they become incredibly, incredibly challenging. I think the more we can do at the commission to encourage stronger requirements as these licenses are renewed and the more we

do from the state-by-state perspective, it will benefit the species in the whole in the long run.

MR. FOTE: When I first got on the commission in 1990, Al Goetz from Maryland, we had to hold him – he says we have to start a habitat committee. Of course, basically what we are doing is regulating fishermen, cutting back recreational and commercial fishermen, and we weren't dealing with some of the real problems with the fisheries.

Example, the striped bass; there is a power plant down in the Delaware Bay that has been killing enough eggs and embryos to produce 50,000 striped bass a year according to DEP. When we have to make a reduction on striped bass fishermen, we never make a reduction on the power plants that you have to reduce your kill by 25 percent.

That happens with all the plants that have water intakes and everything else. This a most important issue. We can only manage fishermen and they have taken the full brunt of this. A lot of these fisheries are in decline because of sewer plants, power plants and other users of the marine resource water.

I support this 100 percent and we should make this not just on eels but every other species that we're dealing with, whether it is winter flounder up in Jamaica Bay because of the sewer plants discharging and affecting their sex or other species. We should do this for every species to make sure they basically are handled under the new permit restrictions.

CHAIRMAN O'CONNELL: Any other comments on the turbine mortality issue? Mitch.

MR. FEIGENBAUM: Yes; I want to echo the sentiments of the previous speakers. I just would also like to point out to my fellow commissioners that we just voted for Option 6 in the glass eel part of the addendum, which actually allows for quota allowances for habitat restoration. I want to commend the working group for embracing that option; because we've all heard it said we can't really manage the habitat issues; we can only manage the fisheries.

But here is a case where we're using our management capacity or management potential to the fullest of its capacity by giving our legislatures an additional tool or at least an additional incentive to push the habitat issues to the maximum because now there is an actual reward or potential reward at the end of the process. Again, I thank the working group for all their work; but on this particular issue I commend them again for embracing this recommendation.

CHAIRMAN O'CONNELL: Going forward I will work with Kate to try to find opportunities to bring updates and assess how we're doing on those issues within the states. Any other business to come before the board today? With just in closing, I just want to thank Kate and Sheila and Marty and Joe. Draft Addendum IV has been a long process. I know everyone is not leaving here today completely happy. I commend the working group for the amount of work they did.

If you look at it as a whole, I think, as Rob said, we've set a standard for going forward for glass eels and yellow eels. Yes, we didn't satisfy the technical committee recommendation; but I think we found that right balance between conservation needs and economic needs. I don't think we should at today as an endpoint. We still have a couple states that have some challenges with New York and we've got to try find ways where we can perhaps address those issues going forward.

ADJOURNMENT

I just want to thank all of you and meeting adjourned.

(Whereupon, the meeting was adjourned at 3:50 o'clock p.m., October 27, 2014.)

Atlantic States Marine Fisheries Commission

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MEMORANDUM

July 20, 2015

To: **American Eel Management Board**

From: **American Eel Technical Committee**

RE: **Recommendations on Maine's American Eel Life Cycle Survey Proposal**

Addendum IV to the Interstate Fishery Management Plan for American Eel 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. To meet this requirement, the State of Maine developed a life cycle survey proposal for Technical Committee review and Board approval. This memorandum documents the TC's discussion and recommendations on Maine's life cycle survey.

In brief, Maine has proposed a three-year survey on glass, yellow, and silver eel life stages in the Cobboseecontee Stream drainage. The survey will use methods to estimate or develop the following: (1) an index of abundance; (2) biomass; (3) mortality; (4) prevalence of the parasitic nematode *A. crassus;* and (5) average length and weight of eels in the survey for each life stage (glass, yellow, and silver eels), as well as (6) age of entry into the survey; and (7) age structure of yellow and silver eels. The study will use various field sampling and tagging techniques based on eel life stage and sampling habitats to accomplish its objectives (see enclosed proposal for more details).

The TC commended the State of Maine for the development of a comprehensive survey design, but expressed concern about the use and applicability of the current survey design results for science and management. Specifically, the TC had the following concerns:

1.) The survey design should span at least one life cycle of American eel so that a cohort analysis can be conducted.
2.) The survey should extend across the watershed to be more representative of the scale of the fishery.
3.) The survey should verify that tagging model assumptions are not violated prior to implementation: (1) no marks or tags are lost (2) marks or tags are recognized and accurately recorded when recaptured (3) no animals die due to capture and tagging (4) tagged animals are thoroughly mixed with untagged animals and represent a random sample of the untagged population.

Based on these concerns, the TC recommended further development of Maine's life cycle survey design prior to implementation. The TC re-established a subcommittee that previously worked on life cycle survey designs to help address the concerns expressed by the TC. This subcommittee will continue to work with Maine on the survey design and report back to the American Eel Management Board at ASMFC's annual meeting with the goal of implementing a well-designed usable survey in 2016.

Maine's American Eel Life Cycle Survey Proposal for ASMFC TC Review (June 2015)

Introduction

Addendum IV to the Interstate Fishery Management Plan for American Eel requires that any states or jurisdiction with a commercial glass eel fishery must implement a fishery independent life cycle survey covering glass, yellow, and silver eels within at least one river system. If possible and appropriate, the survey should be implemented in the river system where the glass eel survey (as required under Addendum III) is being conducted to take advantage of the long term glass eel survey data collection. At a minimum the survey must collect the following information: fisheries independent index of abundance, age of entry into the fishery/survey, biomass and mortality of glass and yellow eels, sex composition, age structure, prevalence of *Anguillicola crassus,* and average length and weight of eels in the fishery/survey. Survey proposals will be subject to TC review and Board approval.

Study area

The Maine Department of Marine Resources (MDMR) will conduct a fishery independent life cycle study of American eel in Cobboseecontee Stream drainage (Figure 1). West Harbor Pond, location of the glass eel survey (Figure 1) was excluded as a potential study site, because the pond has become increasingly anoxic due to salt water intrusion, and Boothbay Harbor is drawing increased amounts of water from the upper drainage. Cobboseecontee Stream drainage was selected for its configuration, its proximity to MDMR's office, and the presence of three dams (Figure 2) that provide places to monitor and sample eels. In addition, MDMR previously conducted a study of glass eels and tested upstream eel passage designs in the lower portion of this drainage. Glass eels have been harvested at the mouth of Cobbosseecontee Stream annually since 1996; therefore MDMR will close the stream to elver fishing for the duration of this study. A silver eel fishery existed at the outlet of Messalonskee Lake (Figure 2) until the mid-1990s.

Methods –general

The life cycle study will be conducted over a three-year period. Sampling typically will be conducted from April through October and life stages will be sampled with different gears at different frequencies and at different locations throughout the drainage (Table 1) to accomplish life stage-specific objectives. Between November and March, biological samples will be processed and data will be digitized and analyzed.

Methods – glass eels

The specific objectives for the glass eel study are to 1) develop an annual index of abundance and determine 2) biomass, 3) mortality, and 4) average length and weight of eels in the survey. Age, sex composition, and prevalence of *A. crassus* will not be determined for glass eels.

To accomplish objectives 1, 2, and 4, glass eels will be captured daily just upstream of the mouth of Cobbosseecontee Stream with fyke nets that will be set on either side of the stream. Nets will be deployed in spring when glass eels begin migrating upstream in this area (approximately mid-May through mid-June) as soon as spring flows have subsided. Similar to the mandatory young-

of-year surveys, the daily catch will be weighed to obtain total biomass, and the weight and number of glass eels in a subsample will be used to estimate the number of eels in the catch. Once a week, 60 glass eels will be individually weighed and measured and pigment stage assessed.

Mark-recapture methods will be used to estimate natural mortality (objective 3). The daily catch of glass eels will be batch marked with calcein using techniques developed by the USFWS (Appendix A; Appendix B; Appendix C). This method of marking eels was selected because it can be accomplished in the field in minutes and it will allow rapid assessment of marked versus unmarked fish in the field. After a short recovery period, marked glass eels will be released a short distance upstream of the capture location to reduce fallback. A recapture site will be located at the head-of-tide, approximately 317 m upstream of the stream mouth, where one or two fyke nets will be set and fished daily to capture upstream migrating glass eels and small yellow eels. The daily catch of glass eels will be examined with a special light source to detect marked fish. Marked and unmarked fish will be weighed separately to obtain total biomass, and the weight and number of glass eels in a subsample will be used to estimate the number of eels in the catch. Once a week 60 glass eels will be individually weighed and measured and pigment stage assessed. Small pigmented eels will be treated similarly.

Methods - yellow eels

The objectives for the yellow eel studies are to 1) develop an index of abundance; 2) determine age of entry into the survey, 3) biomass, 4) mortality, 4) age structure, 5) prevalence of *A. crassus,* and 5) average length and weight of yellow eels in the survey. In order to accomplish these objectives, yellow eels will be sampled using three methods. At the lowermost dam (Figure 2,dam 1), upstream migrating eels will be captured at the top of one or more eel passages from approximately June through September. This is an effective method of sampling small yellow eels; 99% of the yellow eels using upstream passage at this barrier from 1997–1999 were ≤ 150-mm TL (Wippelhauser unpublished data). In wadeable fluvial habitat, three-pass depletion sampling with a backpack electroshocker will be conducted at each site; a blocking net will be installed at the upstream and downstream end of the area to be sampled. Electrofishing will be conducted in the area between the mouth and third dam (Figure 2) once a month in from June through September. Oliveira and McCleave (2000) successfully used this method to capture eels ranging from 100 –580-mm TL in four river systems in Maine. Because there are numerous large lakes in the drainage that cannot be sampled within the three-year study period, MDMR will focus on sampling Pleasant Pond (746 acres). A total of 36 baited eel pots made of 0.5-inch mesh will be deployed in a grid pattern throughout the pond and allowed to fish for 48 hours before being tended. This mesh size is expected to provide an unbiased sample of eels ≥30-cm TL (Morrison and Secor 2003).

For yellow eels captured at the lowermost barrier, the daily catch will be examined for calcein marks, weighed to obtain total biomass, and the weight and number of eels in a subsample will be used to estimate the number of eels in the catch. Once a week, 60 eels will be individually weighed and measured and euthanized for later determination of age and examination for the presence of *A. crassus*.

For yellow eels captured by electrofishing or in pots, each captured yellow eel will be weighed, measured, and PIT tagged (12 mm tag) if > 150 mm TL, with the exception of a subsample that will be euthanized for later determination of age, sex, and presence of *A. crassus*.

Methods – silver eels

The objectives for the silver eel studies are to 1) develop an index of abundance; 2) determine age of entry into the survey, 3) biomass, 4) mortality, 4) age structure, 5) prevalence of *A. crassus,* and 5) average length and weight of silver eels in the survey. In order to accomplish the first objective, silver eels from the entire drainage will be enumerated with a DIDSON at the American Tissue Project downstream eel passage (Figure 2, dam 2). The DIDSON will be aimed at the deep gate through which eels pass downstream (the turbine intake is screened), and will record during the nighttime. This method of visualizing migrating eels was tested successfully at the site in 2007 (Gail Wippelhauser unpublished data). A fyke net will be set downstream to capture eels for biological sampling (length, weight, otolith for ageing, and swim bladder parasite).

Analysis – glass eels

1. For each of the three years, the total number and weight of unmarked glass eels caught at the mouth of Cobboseecontee Stream and at the head of tide will provide an annual index of abundance and of biomass.
2. For each of the three years, the average length and weight of glass eels will be calculated from the weekly measurements made on individual glass eels.
3. For each of the three years, survival will be estimated from the number of glass eels caught at the head of tide compared to the number caught at the mouth and from Peterson mark-recapture estimates of abundance at two times (Jessop 2000).

Analysis – yellow eels at upstream passage (≤150-mm)

1. For each of the three years, the total number and biomass of eels using upstream passage at the lowermost barrier will provide an annual index of abundance of recruitment into inland waters of eels .
2. For each of the three years, the average length and weight of glass eels will be calculated from the weekly measurements made on individual eels.
3. Sagittal otoliths will be aged. Annular rings in each otolith or otolith section will be counted at least twice by two readers.
4. The presence and number of *A. crassus* nematodes found inside the swim bladder of each subsampled eels will be recorded.
5. Because there is no commercial fishery for yellow eels in the watershed, natural losses will be estimated from catch curves.

Analysis – yellow eels ≥150-mm and silver eels

1. For each of the three years, the abundance of yellow eels in Cobbosseecontee Stream will be estimated from multiple pass depletion (electrofishing) and of yellow eels in Pleasant Lake (baited pots) from marked and recaptured eels (equations in Lockwood and Schneider 2000).
2. For each of three years, the number of silver eels emigrating from the watershed will be counted at the second dam.
3. For each of the three years, the average length and weight of yellow eels and silver eels will be calculated from the weekly measurements made on individual eels.
4. Sagittal otoliths from yellow eels >100-cm TL and silver eels will be aged using the sectioning and dying techniques described by Oliveira (1996) and Graynoth (1999). Annular rings will be counted in each otolith section at least twice by two readers.
5. The presence and number of *A. crassus* nematodes found inside the swim bladder of each subsampled eels will be recorded.
6. Because there is no commercial fishery for yellow eels in the watershed, natural losses will be estimated from catch curves.
7. Gonads will be examined macroscopically and by the squash method of Guerrero and Sheldon (1974) and classified as male, female, or undifferentiated. Oliveira and McCleave (2000) reported that sex in 95% of the American eels sampled in four river systems in Maine could be differentiated by 250–270 mm TL, depending on the river system.

References

Graynoth, E. 1999. Improved otolith preparation, ageing and back-calculation techniques for New Zealand fresh water eels. Fish. Res. **42**: 137.146.

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Lockwood, R. N. and J. C. Schneider. 2000. Stream fish population estimates by mark and-recapture and depletion methods. Chapter 7 *in* Schneider, James C. (ed.) 2000. Manual of fisheries survey methods II: with periodic updates. Michigan Department of Natural Resources, Fisheries Special Report 25, Ann Arbor.

Morrison, W. E. and D. H. Secor. 2003. Demographic attributes of yellow-phase American eels (*Anguilla rostrata*) in the Hudson River estuary. Can. J. Fish. Aquat. Sci. 60: 1487-1501.

Oliveira, K. 1996. Field verification of annular growth rings in the American eel, angiuilaa rostratea, using tetrracycline-marked otoliths. U.S. Fish. Bull. 94: 186-189.

Oliveira, K. and J. D. McCleave. 2000. Variation in population and life history traits of the American eels Anguilla rostrata, in four rivers in Maine. Env. Biol. Fishes 59: 141-151.

Table 1. Schedule of field activities to be conducted annually over a period of three years.

Activity	Apr	May	Jun	Jul	Aug	Sep	Oct
Glass eel fyke netting							
at stream mouth	daily	daily	daily				
at head-of-tide	daily	daily	daily				
Yellow eel US passage			daily	daily	daily	daily	
Yellow eel e-fishing			biweekly	biweekly		biweekly	
Yellow eel pot fishing			biweekly	biweekly		biweekly	
Silver eel DIDSON					daily	daily	daily

Figure 1. Location of proposed study area for life cycle study in Cobboseecontee Stream drainage (large oval) and location of glass eel survey in West Harbor Pond drainage (small oval).

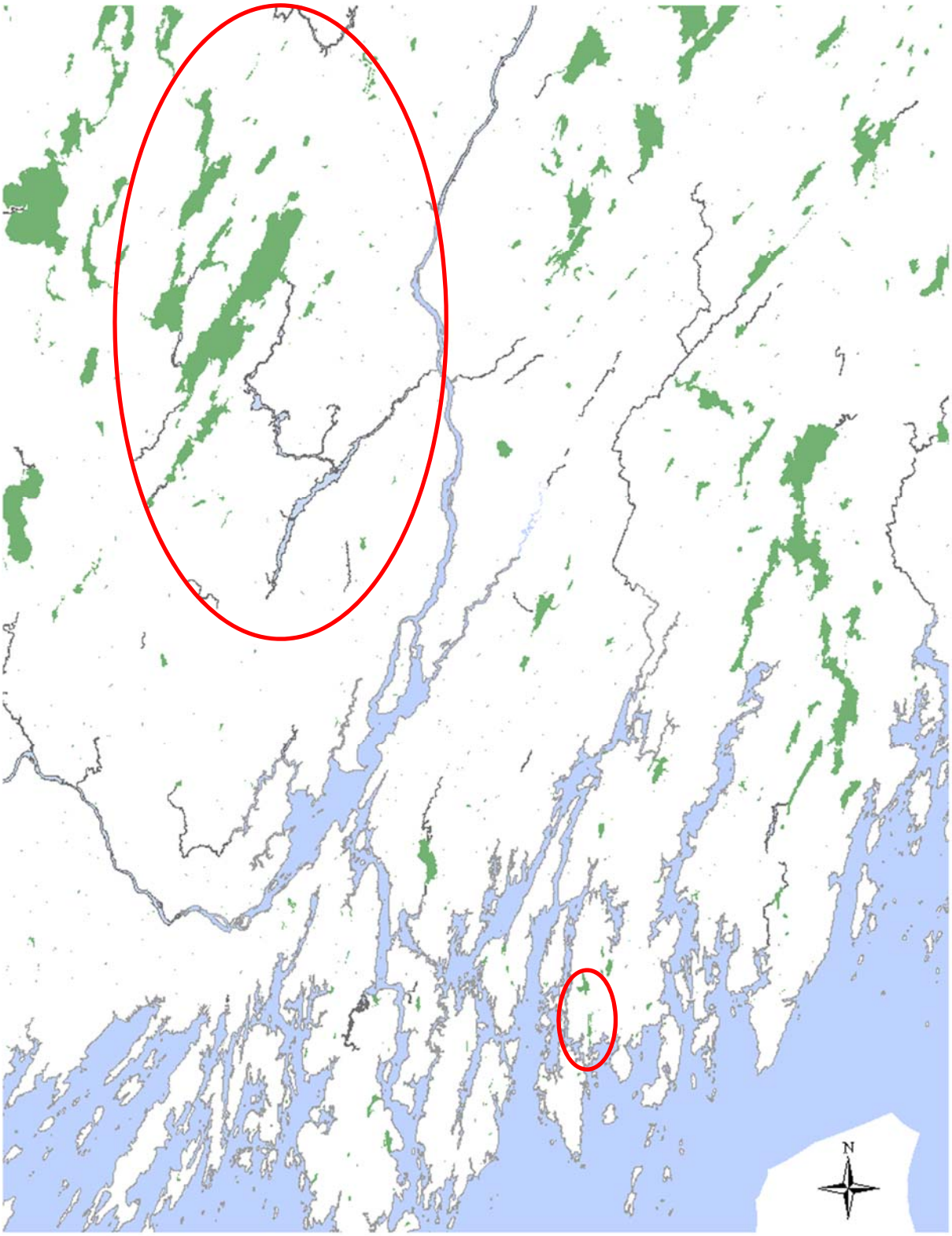
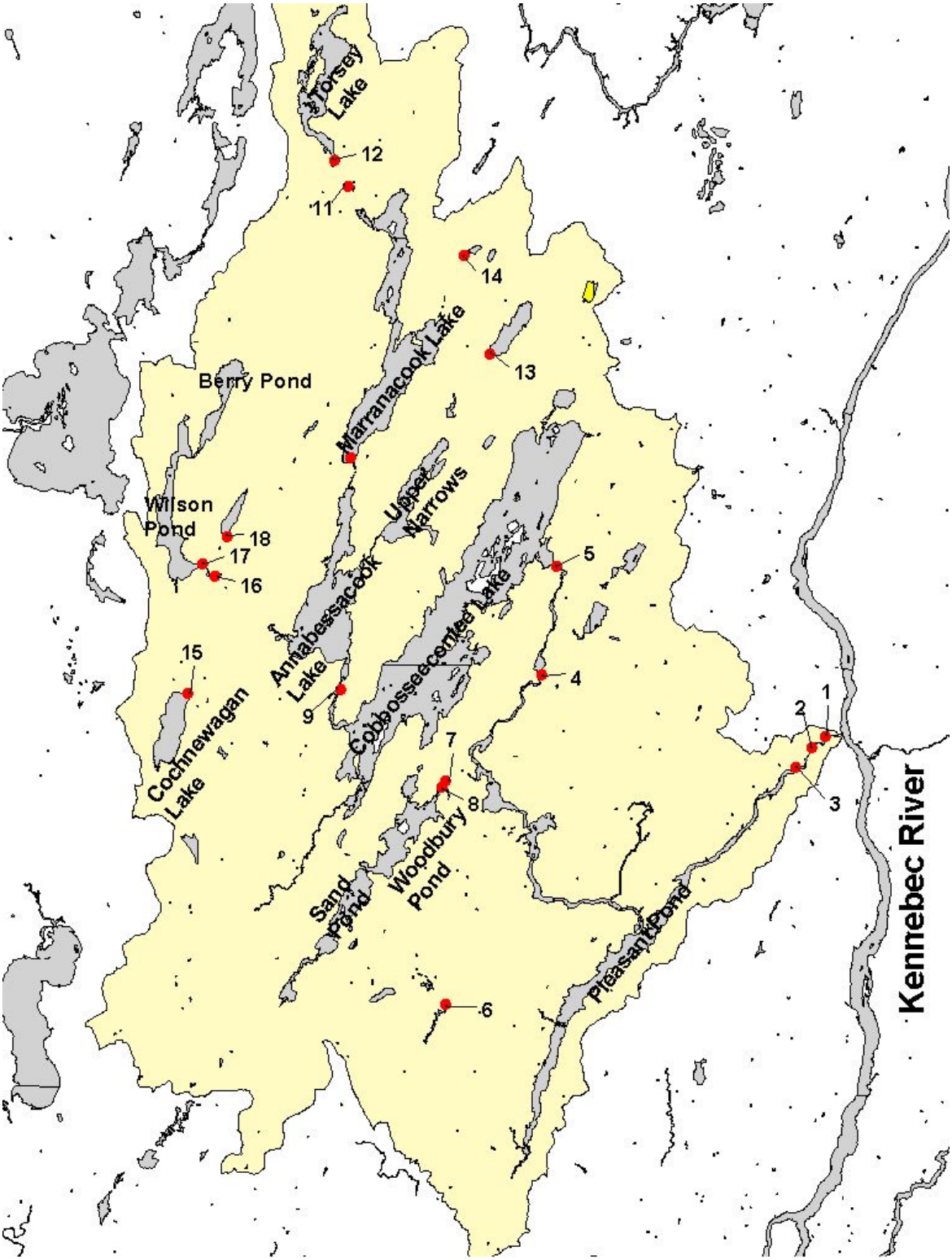


Figure 2. Detailed map of Cobbosseecontee Stream drainage showing location of major water bodies and dams (red circles). None of the dams have upstream eel passage. The American Tissue Hydropower Project (dam 2) has a downstream eel passage facility.



Atlantic States Marine Fisheries Commission

Tautog Management Board

August 5, 2015
9:00 – 10:30 a.m.
Alexandria, Virginia

Draft Agenda

The times listed are approximate; the order in which these items will be taken is subject to change; other items may be added as necessary.

1.	Welcome/Call to Order (*A. Nowalsky)*	9:00 a.m.
2.	Board Consent • Approval of Agenda • Approval of Proceedings from May 2015	9:00 a.m.
3.	Public Comment	9:05 a.m.
4.	Consider Draft Public Information Document for Amendment 1 for Public Comment (*M. Waine*) **Action**	9:15 a.m.
5.	Review and Populate Advisory Panel Membership (*M. Waine*) **Action**	10:25 a.m.
6.	Other Business/Adjourn	10:30 a.m.

The meeting will be held at The Westin Alexandria 400 Courthouse Square, Alexandria, Virginia; 703.253.8600

Vision: Sustainably Managing Atlantic Coastal Fisheries

MEETING OVERVIEW

Tautog Management Board Meeting
August 5, 2015
9 – 10:30 a.m.
Alexandria, Virginia

Chair: Adam Nowalsky (NJ) *Assumed Chairmanship: 05/15*	Technical Committee Chair: Jason McNamee (RI)	Law Enforcement Committee Representative: Jason Snellbaker
Vice Chair: VACANT	Advisory Panel Chair: VACANT	Previous Board Meeting: May 7, 2015
Voting Members: MA, RI, CT, NY, NJ, DE, MD, VA, NC, NMFS, USFWS (11 votes)		

2. Board Consent

- Approval of Agenda
- Approval of Proceedings from May 2015

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 in 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 Chair will not allow additional public comment on an issue. 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. Consider Draft Public Information Document for Amendment 1 to the Tautog Fishery Management Plan for Public Comment (9:15 – 10:25 a.m.) Action

Background

- Based on the results of the 2015 Benchmark Stock Assessment, the Board initiated Draft Amendment 1 to the Interstate Fishery Management Plan for Tautog. A Public Information Document (PID) is the first step of the amendment process.
- The PID considers overall goals and objectives as well as regional stock management areas, reference points, rebuilding timeframes, and management measures for the fisheries (**Supplemental Materials**).

Presentations

- Overview of PID for Public Comment by M. Waine

Board actions for consideration at this meeting

- Approve PID for Public Comment

5. Advisory Panel Membership (10:25-10:30 a.m.) Action
Background • Travis Barao (RI Recreational), Edward Yates (NJ For Hire), and Wes Blow (VA Recreational) have been nominated to the Tautog Advisory Panel (**Briefing Materials**)
Presentations • Nominations by M. Waine
Board actions for consideration at this meeting • Approve nominations

6. Other Business/Adjourn

DRAFT PROCEEDINGS OF THE

ATLANTIC STATES MARINE FISHERIES COMMISSION

TAUTOG MANAGEMENT BOARD

The Westin Alexandria
Alexandria, Virginia
May 7, 2015

These minutes are draft and subject to approval by the Tautog Management Board
The Board will review the minutes during its next meeting

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ATTENDANCE

Board Members

David Pierce, MA (AA)
William Adler, MA (GA)
Jocelyn Cary, MA, proxy for Rep. Peake (LA)
Mark Gibson, RI, proxy for R. Ballou (AA)
Eric Reid, RI, proxy for Sen. Sosnowski (LA)
Dave Simpson, CT (AA)
Lance Stewart, CT (GA)
Pat Augustine, NY, proxy for Sen. Boyle (LA)
Steve Heins, NY, proxy for J. Gilmore (AA)
Emerson Hasbrouck, NY (GA)
Russ Allen, NJ, proxy for D. Chanda (AA)
Tom Fote, NJ (GA)
Adam Nowalsky, NJ, proxy for Asm. Andrzejczak (LA)
John Clark, DE, proxy for D. Saveikis (AA)
Craig Pugh, DE, proxy for Rep. Carson (LA)
Tom O'Connell, MD (AA)
Rob O'Reilly, VA, proxy for J. Bull (AA)
Kyle Schick, VA, proxy for Sen. Stuart (GA)
Mike Millard, USFWS

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

Ex-Officio Members

Jason McNamee, Technical Committee Chair

Staff

Bob Beal
Toni Kerns
Melissa Yuen
Katie Drew

Guests

Doug Grout, NH F&G
Cheri Patterson, NH F&G
Steve Meyers, NOAA
Brandon Muffley, NJ DFW
Eric Schultz, Univ. of CT
Jack Travelstead, CCA

The Tautog Management Board of the Atlantic States Marine Fisheries Commission convened in the Edison Ballroom of the Westin Hotel, Alexandria, Virginia, May 7, 2015, and was called to order at 8:30 o'clock a.m. by Vice-Chairman Adam Nowalsky.

CALL TO ORDER

VICE-CHAIRMAN ADAM NOWALSKY: I would like to welcome you to this morning's meeting of the Tautog Management Board. I am sitting in this morning for Jim Gilmore. This is the only board meeting that we have on the agenda for today. Without any further ado, we'll call the meeting to order.

APPROVAL OF AGENDA

VICE-CHAIRMAN ADAM NOWALSKY: The first order of business will be to approve the agenda. Is there any objection to the agenda as provided? Were there any additions? Seeing no additions and no objections, the agenda is approved as written.

APPROVAL OF PROCEEDINGS

VICE-CHAIRMAN ADAM NOWALSKY: Our next order of business this morning will be to approve the proceedings from the February 5, 2015, board meeting. Is there any objection to approving those proceedings as written? Seeing none; those proceedings are approved as written.

PUBLIC COMMENT

Our next order of business this morning will be for public comment for any items that are not on the agenda. We do not have anyone signed up to speak. It does not appear anyone from the audience is running to get to the microphone. We did receive one item that is in the supplemental materials and Melissa will just briefly go over that item of public comment that was received prior to the meeting.

MS. MELISSA YUEN: We did received a letter from a recreational fisherman in the DelMarVa region. He wanted to provide some of his experience on the water about how they are seeing a lot fewer tautog in spots that are known to have tautog in the water. Please see his letter that is included in the supplemental material. Thank you.

VICE-CHAIRMAN NOWALSKY: All right, thank you very much. Are there any questions for Melissa on that? Seeing none, we will move on to the meat and potatoes of today's meeting.

CONSIDERATION OF A MANAGEMENT RESPONSE TO THE BENCHMARK STOCK ASSESSMENT

TECHNICAL COMMITTEE REPORT

We will need to consider a management response to the benchmark stock assessment; and leading up to that we will get a technical committee report to get some more feedback on the stock unit definitions that we had reviewed at the last meeting. For that I will turn to Jason.

CLARIFICATION TO SELECTING REGIONAL TAUTOG STOCK DEFINITION

MR. JASON McNAMEE: Good morning, everyone. My name is Jason McNamee. I work for the Rhode Island Division of Fish and Wildlife. I'm going to go through a slide presentation. There are a few slides and I think a lot of them will be kind of a quick flip-through; so hopefully this won't take too long. I don't want to eat into your discussion time.

This is a report from the Tautog Technical Committee, and it focuses in on the regional breakout and the biological reference points from the stock assessment. Just by way of introduction, in February this board approved the 2015 benchmark stock assessment and peer review reports for the tautog stock; and they

approved this for management use. However, at that time there was a lot of discussion on the regional breakouts as well as the biological reference points. This board tabled that section of the report for further discussion.

The technical committee met I believe it was in March, and we developed a report that kind of splits out the regional information as well as the biological reference point information so that we could kind of focus in on that. This presentation will explain the biological and fisheries data used to weigh the strengths and weaknesses of the four stock unit definitions.

There are four we looked at coastwide. We looked at a two-region breakout. Then we looked at two different three-region breakouts. We will hit on all of those at some point during this presentation. It also presents some additional MRIP data analysis that was completed after the assessment occurred, and we will touch on that as well.

Then we will finish up with a look at the overfished and overfishing status for the different regions based on biological reference points as well. I'm going to start off with a discussion about the regions. The technical committee considered all available biological and fisheries data as well as management concerns when determining the regional definitions to assess.

We looked at a whole suite of information during our deliberations during the stock assessment process. Based on the analyses of biological and fisheries information, the technical committee determined that the coast-wide stock unit was not appropriate; and that is what we had been managing with more or less to that point was a coast-wide unit.

We wanted to get away from that. We felt it was not appropriate for tautog. Some of the things that we kind of had as underlying principles were that the appropriate region designations must compromise both tautog's limited home range – so they don't move very far; they kind of come back to the same areas year after year – with the available data that we had as well as political boundaries.

It is sometimes very difficult to manage things outside of the state breakout that we currently have set up. The technical committee recognized that the proposed three-region breakdowns aren't perfect. They likely contain distinct sub-stocks; but we believe that this structure reduces the risk of overfishing any individual sub-stock and is better in any regard than the previous coast-wide structure that we were using.

We considered two different three-region breakouts. The first was the base model breakout. That had a Southern New England Region that had Connecticut, Rhode Island and Massachusetts all in it. There was an Upper Mid-Atlantic New York/New Jersey Region and then a DelMarVa Region that included Delaware, Maryland and Virginia.

We also looked at an alternative region. For the most northern region, that will comprise just Rhode Island and Massachusetts. There is a Mid-Atlantic Group that has Connecticut, New York and New Jersey; and then a Southern Group that again is the DelMarVa Region of Delaware, Maryland and Virginia. The DelMarVa Region doesn't change in either of those two situations. One additional note; Massachusetts and Rhode Island up to this point had been managing using a separate stand-alone stock assessment.

At least that northern region is in line with that stock unit. Some note on the regions – New York and New Jersey share a fishery south of Long Island; and it is very difficult to distinguish catches from this area from each other. Biological evidence suggests that Connecticut and New York fish from Long Island Sound are more similar to Southern New England fish than to New Jersey fish.

The technical committee believed Connecticut would have a higher degree of connectivity with Massachusetts and Rhode Island than it would with New Jersey. These are all pieces of information that we weighed in our deliberations. The technical committee initially, based on a lot of this information, chose the base model as the preferred regional configuration which grouped Connecticut with Massachusetts and Rhode Island into a Southern New England Region.

I'm going to dig into this a little bit more. At the time the technical committee expressed concern that this preferred regionalization splits Long Island Sound into two stocks and that the data sets contained both Connecticut and New York fish. Therefore, we looked at what we call a highly regarded alternate regional breakdown; and this grouped Connecticut with New York and New Jersey. We looked at that in a pretty detailed way as well.

I'm just going to pause for a minute here. I was at the last board meeting and I listened to the deliberations, and it was very similar, just so you know, to deliberations that we had at the technical committee. It was by no means a slam-dunk to go with what we ended up calling our preferred regional breakout. We had a lot of discussion. We had multiple meetings on it.

It was vigorous yet respectful debate that we had at the technical committee. I just wanted to make you aware that it wasn't just an item of discussion for you. We also discussed this at length at the technical committee. A two-region breakdown of Massachusetts through New York and then New Jersey through North Carolina. A coast-wide model was also considered.

However, the technical committee determined that the finer scale that the three-regional breakdown gave was preferred and was the better breakout to use for status and management information. Again, an important note; the preferred and the alternate highly regarded three-region definitions were both presented and both were supported for management use by the technical committee and the peer review panel.

At the technical committee we always strive to achieve a consensus. As I just mentioned, there was a vigorous debate that we had over how to make these three-region breakouts work. In the end the way we came to consensus was to call one preferred and to call one highly regarded. I know some folks have chuckled at kind of the language we used there, but it was intentional and it was how we kind of got through the struggle that we were having.

Now I'm going to dig into the specific information that we were looking at when we made our decisions on the regional breakout. The first suite of information we looked at was biological information. There were several key biological characteristics that we examined to make inferences about similarities between the areas.

These included age and length data collected by each state, which we used to look at growth, natural mortality. We looked at estimators for natural mortality from the scientific literature and then compared the different areas with those estimators. Then we looked at migratory behaviors based on tagging studies conducted by state programs.

It is important to note that the data availability varies pretty significantly by region. The northern states have more data in particular from early in the time series when there were more older, larger fish in the samples. The southern states lack data from fishery-independent sources and therefore have limited samples of the youngest, smallest fish.

You would get those fish from fishery-independent information. You can't get those from commercial sampling or recreational sampling because it is not legal to keep those very small fish. The New York samples come from both Long Island Sound and the Atlantic

Ocean, which makes the distinctions between the New York and New Jersey growth rates less certain, so the data are almost confounded.

Further examination of growth rate differences should be explored using data that are more representative of the full-sized age structure of the population. This is just kind of a recommendation of something that we need to be cognizant of moving forward. As we gain more information, as our sampling program continues through time, we should reexamine this information.

The first piece of biological information that I mentioned were these growth curves. Growth curves per state and region were developed using length and age data. These were an examination of Von Bertalanffy Growth Curves. So your maximum size, like your L-infinity parameter and then the growth constant; that is your K parameter from the Von Bertalanffy Equation.

What we found was that growth constants generally decreased along the north-to-south gradient while maximum sizes were higher in the southern portion of the range than the northern portion of the range. This suggests a regional difference in growth sizes. Just to kind of hone you in, Mike, if you'll kind of click, you can see this first grouping here.

For the growth constants, there are similarities in that grouping. If you click again, Mike, you can see there is also similarities in this grouping of the growth constant; and then one more click, Mike, you can see there is this general trend. It is not an exact trend by any means, but you can see that the maximum size estimates go from low to high moving north to south.

You can also see this in the more truncated version; in particular the three-region breakout. Mike, if you click, you can see we go from low to high again in that maximum size estimate; and then click one more time, Mike, and you can see again there is a grouping here with the growth constant in the Von Bertalanffy curve information.

Another piece of information we looked at was natural mortality. We calculated natural mortality for each region. Area-specific estimates showed higher rates of natural mortality in the northern regions relative to the southern regions. These higher estimates of M for the northern regions came from estimators that rely on growth parameters. We looked at a whole suite.

We did a pretty thorough examination of all the different techniques for examining natural mortality. The ones that looked at growth parameters showed this difference between northern and southern areas. Mike, if you go ahead and click twice, you can see the Southern New England Area had a higher level while there was a lower natural mortality in the southern extent of the range. However, the estimators that relied on longevity data rather than the growth parameters were more similar for natural mortality than these would indicate. Okay, the final piece of biological information is migratory behavior. We inferred migration from tagging data. What this indicated was that tautog have strong site fidelity and move only short distances longitudinally, if at all, during their seasonal migrations. Now, that statement certainly depends on where you are; and the tagging data can be somewhat misleading.

Tautog move; they move in and out depending on where you are in the range. However, they tend to come back to the same areas year after year. Just to orient you to this plot, you can see there is a couple of marathon tautog, those blue dots that are kind of up away from the rest of the grouping; those are certainly outliers.

In general on the Y axis you have distance in miles and along the X axis you have days at large. This is the time from when the fish was tagged to when it was intercepted. You can see the vast majority of the data is grouped down

within ten miles of where they were tagged is where they are picked up. They're sticking around close to home and don't move that far.

The migration information is strong evidence for managing tautog at a finer regional scale and further justifies that the current or what was in place coast-wide stock unit is not appropriate based on the limited home range for this reef-oriented species. Now we're going to move away from the biological information and talk a little bit about the fishery information.

Fishery-dependent data examined during the assessment included recreational and commercial vessel trip reports. The commercial vessel trip reports are a little more obvious, but the VTR data that we looked at for the recreational side is from the party and charter fleet. These are federally permitted party and charter vessels.

The fishery catch-and-effort information from the National Marine Fisheries Service VTR data was evaluated by statistical area to identify state-specific characteristics. Again, these data are a subset of the fishery. They, therefore, may not be fully representative; but we thought that it was worth looking at because it has a lot more definition in it than the MRIP data has at least by way of they have statistical areas recorded.

We can kind of take a look at that and get a better sense of where the harvest is coming from for these different fishery sectors. The results indicated that angler effort from Massachusetts to Connecticut remain primarily within local sounds and bays. The same effort from Delaware to Virginia remain south of Delaware Bay.

The fisheries in New York and New Jersey range from Long Island Sound to Delaware Bay, but they have significant overlap in ocean waters in Statistical Area 612 and 613. This is approximately the Manasquan River, New Jersey, to Montauk, New York. We've got a little more information and we'll show you a map of where these statistical areas are.

You're looking a couple of tables here plus the statistical areas off on the right-hand side. The top is the commercial information, the top table. The bottom table is the recreational information. The far left-hand side of the table are the statistical areas. What you can do is look at the statistical area and then look over at the map, if you can even read those numbers.

I'll use the fancy laser pointer I have here and try and focus you in on a couple of things. But what you can see; Massachusetts has fisheries in both Cape Cod Bay and then Nantucket and Martha's Vineyard Sounds. Rhode Island tends to be in Block Island and Rhode Island Sounds. Then you get into this Connecticut/New York/New Jersey area and what you can see in these tables is a lot of overlap, so you get this slug of red in the middle here.

You see Connecticut and New York in Statistical Area 611; there is a lot of overlap there. New York and New Jersey have a lot of overlap in 612. 611 is Long Island Sound and 612 is on the other side of Long Island Sound, sort of in the nexus there between Long Island and New Jersey. You can see there is a lot of overlap with kind of New York in the middle of this overlap.

Then as you head down south, there is overlap in Statistical Area 621 between Delaware and Maryland and Virginia, significant overlap. This bears out to different degrees but is similar in both the commercial and the recreational data. The patterns of fishing effort inferred from the VTR data suggests New Jersey and New York are fishing on the same fish in the ocean south of Long Island and that New York and Connecticut are fishing on the same fish in Long Island Sound while Connecticut and New Jersey have very minimal overlap.

Given the overlap of fishing effort between New York and New Jersey in the ocean waters, the technical committee chose to include New York and New Jersey in the same region. We thought it was important because of the amount of overlap between those two states that we keep them together.

The New York and Connecticut fishing effort also overlaps. This is extremely significant in Long Island Sound, and this is why we struggled with this and it is why the technical committee also strongly endorsed the inclusion of Connecticut in that New York/New Jersey Region and preferred the three-region breakdown in general over separating New York and New Jersey into northern and southern regions.

Okay, a little bit more fishery information came forward after you all met in February. There was a request from one of the commissioners to look into the MRIP data. He had his staff really dig into the MRIP to try and glean the information that they could from that data set. The data from Rhode Island through New Jersey were evaluated.

What they did was they evaluated the MRIP data summarizing the harvest and catch by state, site, fishing area and distance from shore. These are all data elements that included in the MRIP data set. They looked at the years 2004 through 2014; so about ten years' worth of data. What you see is it showed a similar pattern to what we saw with the VTR data, with Rhode Island catch coming mainly from Narragansett Bay.

This is the recreational fishery so I probably should have started with the vast majority of the harvest in tautog is from the recreational sector. Commercial is sometimes as little as 10 percent of the harvest, so the recreational information is extremely important. Rhode Island data is coming mainly from Narragansett Bay.

Connecticut catch is coming pretty much exclusively from Long Island Sound. New Jersey catch is coming from open water. New York is split between the two, so it has a lot coming out of Long Island Sound and has a lot coming out of the open water area. Again, this overlap is the uniqueness of New York with Long Island Sound that kind of leads to this very distinct fishery. Now I'm going to move into some of the peer review comments on this information.

We thought we'd split those out just to remind you about this. The peer review panel down-weighted the biological information in assessing regions. There was a lot of discussion at your February board meeting about this ad hoc approach to the regions. I felt it was a little unfair; we did a lot of work. I would refer to it more as a weight-of-evidence analysis rather than ad hoc.

The reason I think the Peer Review Panel Chair characterized it that way is because they down-weighted the biological information. They basically stated that the regional differences could be driven as much by data availability and the differences in that availability rather than the statistics bearing out actual differences. It is a very logical and important note to make.

In addition, they approved finer regional scale assessments; so they also agreed with our interpretation of the more regions the better. They agreed with that, and they stated that the regional-level ASAP assessment – this is the statistical catch-at-age assessment that we put forward as the preferred method – that this region-level ASAP provided the best available scientific foundation for management.

It is also important to note that they did not endorse one regional breakdown over another, meaning they didn't give any guidance as far as which three-region breakout they thought was better than the other. I've got a couple of slide here concluding the regional discussion. The Tautog Technical Committee determined the three-regional approach would provide the best

balance between a smaller geographical scale and the data available, the richness and the reliability of that information.

We also considered both three-region breakdowns to be reasonable from a scientific standpoint. We will note that the highly regarded three-region breakdown avoids the Long Island Sound mismatch, so it doesn't split Long Island Sound into two. A couple of additional notes; Long Island Sound presents a unique challenge to regional management for this species.

That population in Long Island Sound probably represents a sub-stock; and that sub-stock most likely only has a small amount of overlap and recruitment with surrounding areas. There is a genetic study taking place. I believe this is referring to the study of the Virginia Institute of Maine Science. This study may help inform that assumption that Long Island Sound has a distinct sub-stock.

One other very important note is that in recent years harvest from Long Island Sound has accounted for 29 percent of the coast-wide landings. That harvest is significant and is an important consideration for the board. For these reasons, the technical committee acknowledges managing Long Island Sound as a discrete area may be appropriate.

That means a Long Island Sound specific assessment would be needed in that case. Fishery-independent data exists for Long Island Sound. All of Connecticut sampling and most of New York's fishery-independent surveys for tautog come from the Sound; so there is a decent amount of information within the Sound itself.

There are challenges with properly partitioning the fishery-dependent data and harvest estimates for Long Island Sound, especially for New York's harvest. These challenges at the time prohibited us from exploring a Long Island Sound specific assessment. That's why we didn't do it for the current benchmark, but we do recognize the value in exploring this option in the future.

DISCUSSION ON REFERENCE POINTS

Okay, that's it on the regions, and I'm going to finish up here with a couple of slides on the biological reference points. This was another element from the assessment information that came up at your board meeting. We had developed different biological reference points for the three regions that we had put forward as our preferred regions.

Just a quick up-front statement; the technical committee felt that since we were – each of the sub-regions that we assessed, they're separate assessments, so we were comfortable that we had the flexibility to develop individual inconsistent biological reference points because the information contained in each of the regional assessments is different.

I will outline the logic that we kind of followed in these slides. Longer data time series exists for states in the north; therefore, the assessment used different methods to calculate the reference points for these different regions. Using the ASAP model as our preferred tool; we developed maximum-sustainable-yield-based reference points.

They used a combination of spawning potential ratio, SPR; yield per recruit; and we also used the stock-recruit relationship to calculate spawning stock biomass of maximum sustainable yield and fishing mortality of maximum sustainable yield. The MSY-based reference points were proposed for the Southern New England region mainly due to the longer time series of data.

There were two things in play for the Southern New England assessment. We had a reasonably estimated spawner-recruit relationship that the model produced; and we had data back to when the stock was believed to be at a high

level. The Southern New England information goes all the way back to the early eighties.

SPR-based reference points were proposed for the New York through New Jersey and the DelMarVa regions because of the shorter time series of data. If you would go back and review the assessments for those two areas, they have a shorter time series. For the DelMarVa spawner-recruit curve, it was an easy choice. The model produced unrealistic parameters; the spawner-recruit relationship at a steepness equal to 1. There is no relationship there.

The spawner-recruit curve for the New York/New Jersey Region provided more reasonable parameter estimates; but we didn't use it because the data used in the assessment did not include the peak of the population abundance at the beginning of the recreational time series. It didn't have that very high population abundance we believe was there in the early part of the time series.

The curve that was produced by the model was sensitive to the assumptions in particular about the population levels at the beginning of the time series. With the statistical models you put in a vector of your first-year population, and what we found is the curve would change depending on what we populated that vector with for each of the runs.

MSY-based reference points are generally preferred when they're considered reliable mainly because they address stock productivity by taking into account the relationship between spawning stock biomass and future recruitment. SPR-based reference points don't do this. The technical committee recognizes that there still could be significant uncertainty in the spawner-recruit data for the New England Region. For instance, the Fmsy reference point could change in the future as you add more information in, so we acknowledged this, certainly.

At this time the biological reference point selections of the technical committee are the best scientific information that we have available. We continue to recommend the choices that we made. The peer reviewers also supported the biological reference points that we selected. Just a final note; the MSY development for the New Jersey, New York and the DelMarVa Regions, if that were a choice that we want to make in the future, that will require additional spawner-recruit data. We will have to accumulate this with sufficient contrast in stock size.

It is not that we're suggesting the DelMarVa Region should fish their stock down to lower a number so that we get good contrast for the model; but hopefully you understand the gist of what we're trying to say there. The F-based reference point values by region are not exactly comparable. We wanted to make sure that the board was aware of this.

There are differences in age-specific selectivity due to different regulations in place in the southern extent of the stock and the northern extent of the stock. Tautog are fully recruited to the fishery at older ages in the New England area because we have a larger minimum size. Therefore, more younger fish can contribute to the spawning population before being harvested. This gives a higher F reference point for that area. It was just an important note we wanted to make to the board.

For the Southern New England and the Massachusetts and Rhode Island Regions, whichever version of the three-region breakdown you prefer, where a longer time series of stock-recruit data is available, the MSY-based target reference points were closer to F 50 percent of SPR than the F 40 target proposed for the other regions.

We bring this up just a point of interest or for information for the board. To look at them in the context of each of the three regions, it is difficult to make that direct comparison; so

when you look at it by the numbers, the MSY-based reference are closer to different selections for the SPR information for the DelMarVa and the New York/New Jersey Regions.

If the stock-recruit relationships in New York, New Jersey and DelMarVa are similar to the parameters estimated for Southern New England, the F 30 percent and F 40 percent targets that we selected may exceed the Fmsy for those areas; but again we don't know if that is the case. We just wanted to kind of make that point.

Okay, these are biological reference points. I will leave this table up for your reference, if it even readable. Mike, if you kind of click once, this is the original recommendation for the regional breakout. Southern New England in this case contains Connecticut. Mike, if you click one more time, this is the alternate recommendation; so, again, DelMarVa doesn't change; that stays the same. But then Massachusetts and Rhode Island will be your northern-most region and then the middle region will be Connecticut, New York and New Jersey. That is all I have, Mr. Chair, and I would be happy to take any questions.

VICE-CHAIRMAN NOWALSKY: Thank you very much, Jason. We will turn to the board for questions. Pat Augustine.

DISCUSSION OF
TECHNICAL COMMITTEE REPORT

MR. PATRICK AUGUSTINE: Excellent report, Jason. I haven't heard anything that thorough in a long, long time. Back to the Long Island Sound eventually being considered as an area by itself, you talked about the word "harvest". Is it that we have a lack of harvest information, such as illegal harvest that would prevent the technical committee from going further with that? You said it would be worth looking at later. We are concerned with the illegal harvest of tautog. If that is an issue, then I would like to put that on the table for consideration later, Mr. Chairman. Could you help me with that, Jason?

MR. McNAMEE: Illegal harvest for tautog has been a pretty hot topic of conversation in the past. I will note that we did not talk about that much at all during the benchmark process. I guess what I would offer you is the difficulty with the harvest in Long Island Sound that we were referring to had to do with being able to differentiate New York's harvest into Long Island Sound harvest or ocean harvest. It is not that we didn't know what harvest was, but it was hard for us to determine with a high level of resolution where exactly each of these harvest elements is coming from. That is what we were getting at and we weren't referring to illegal harvest in our deliberations at all.

MR. AUGUSTINE: Just a follow-on, Mr. Chairman. Does the technical committee have any idea of how they could actually get more accurate information? Will it take an effort on the part of our DEC to put together some kind of recordkeeping? Do you have any sense for what might have to be done on New York's part in particular in order to give you better data?

Otherwise, we'll go out of here and tell our constituents that, yes, gee, it would be great if we did that; however, we don't know what mechanism the technical committee might recommend that we use to improve that data collection so you can make that determination.

VICE-CHAIRMAN NOWALSKY: Do you have a response, Jason?

MR. McNAMEE: Yes. I think the exercise that was undertaken after your board meeting by the staff members from Connecticut do a good job of parsing out the recreational harvest as best as we can. You have to make some assumptions, for instance, in particular like around Montauk when they're talking about open water, they're not talking about over towards Block Island, that they're – you know,

there are some assumptions they have to make, but it is probably a decent way to kind of differentiate harvest in New York on the recreational side.

I think the bigger issue is with the commercial data. If your commercial fishermen aren't federally permitted and aren't filling out VTR reports, it is very difficult to figure out where that harvest came from. That is the challenge. There are probably different things you could do to collect that information, some sort of logbook requirement for even a state-waters fisherman or something like that. I won't say that is the only option.

There are probably things that we can do; but it still doesn't solve the issue going backwards in time. Again, assumptions would need to be made that whatever proportions you can glean from any future action you take with your fishery that applies backwards in time, that sort of thing, so that is kind of the challenge.

VICE-CHAIRMAN NOWALSKY: Let me just offer – I did see a couple more hands up – that there are a number of issues this board has discussed in the past, the unreported illegal harvest. I think it is quite clear that the technical committee recognizes Long Island Sound and efforts that need to be made there. We could probably talk about those items ad nauseam today.

I don't think either of those are going to materialistically impact where we are today. We can have those discussions after we get through the management actions we need to take here today, but let's keep the questions focused on the information we have moving forward. Steve, did you have your hand up?

MR. STEVE HEINS: It was just to that last conversation. I just wanted to mention that we do have state reporting in New York for our state-only fishermen. I think it may be a matter of fishermen not filling out their VTRs completely.

MR. TOM FOTE: I want to make sure I understand. When you were looking at the data, you mostly used the party and charterboat fleet and not the private boat fleet in, say, the New York/New Jersey area?

MR. McNAMEE: Yes; the group of recreational fishermen that fill VTRs; that was the data set that we analyzed.

MR. FOTE: Yes; that does kind of create a problem since a lot of the party and charterboats that are still left in the state, that haven't gone out of business, are basically up in the northern area. If you look at the private boats that fish for tautog, they fish from Manasquan south, a lot of them fish the local wrecks or the spots offshore that are not really in the New York/New Jersey waters.

I just was looking at the new state record we have in New Jersey, and that was 25 pounds 5 ounces caught on April 17th, and that was in Cape May. It replaced the record that was caught in Ocean City in 1998, and that was also in southern New Jersey. A lot of the partyboats go up north from, say, Manasquan and the Shark River because that is rock ground and you can basically fish a lot of different areas where the private boats all fish the artificial reefs or all small wrecks or just small pieces of rubble that are out there.

So it is really when you look at just the party and charterboats, you don't get a real picture of how that is being fished. You're talking about 20 miles of a 120-mile coastline, and that is where you're weighting it much heavier. If you look at the statistics, I think the recreational boats make up a large part of the catch, much more than the party and charterboats, like we did when we figured out with summer flounder where they only make up 15 percent of the catch. Your figures might be a little off by just doing it from the party and charterboat logs. That is my concern here. Can you answer that question?

VICE-CHAIRMAN NOWALSKY: The question we heard was, was the information gleaned primarily from the party/charter, and the answer to that was yes; correct?

MR. McNAMEE: Yes.

VICE-CHAIRMAN NOWALSKY: And what was your follow-up question to that?

MR. FOTE: Isn't it possible that this is causing a bias because of all the private boats that fish differently than the party and charterboats for tautog and really a lot of them are further south? When you look at the boats that come out of Barnegat and you look at the boats that come out of Manasquan, they're all private boats; and also like Harbor and Ocean City and Atlantic City, they fish in different areas. There are a lot more private boats in that area than there is up in the northern area.

VICE-CHAIRMAN NOWALSKY: Jason, can you respond to how looking at the for-hire data might have biased the technical committee review?

MR. McNAMEE: I think the table from the MRIP analysis is up behind us here. I will say that we certainly acknowledge that it was in the presentation as well. We understand that it is a subset of the fishing population that potentially doesn't represent everything. I guess an important consideration, though, is we didn't use the numbers in any very specific way.

Again, it was just an analysis that we did looking at information to see if we could tease out some distinctions that we could make to say, oh, yes, this area goes with this region and this area goes with this region. We didn't use it in a mathematical way, I guess. It was used as descriptive information to help us parse this information. Just a final point; this MRIP analysis bears out what you said. Everything you said is accurate.

MR. MARK GIBSON: Would you go back to the table where we were? I think it was reference point table. A couple of things here are confusing me. First, I thought I heard you say that MSY-based reference points were only estimable for the Southern New England Region and yet they appear in this table for all the permutations.

Second, it looks to me as though the first two rows of the bottom table might be transposed because Fmsy is the overfishing limit but in all cases 75 percent of that is greater, which I'm assuming the Fmsy is the overfishing limit and 75 percent of that is proposed as the target, but they're all greater. The targets are all greater than the threshold.

DR. KATIE DREW: To clarify, the F 75 percent MSY is not supposed to be 75 percent of Fmsy. It is the fishing mortality that will bring your biomass down to 75 percent of SSBmsy; so it is expected to be at a higher F value. I can see how it is confusing and we maybe should have clarified that better in the presentation.

To your first question about why the MSY-based reference points are – they're estimable in the sense that you can plug the numbers in and come up with a number, but they rely on the stock-recruit relationship.

We felt that the stock-recruit relationship was more reasonable or reliable in the northern region than it was in the southern two regions. While you can put those numbers in and get a number out, we don't feel that those are accurate representations of what SSBmsy or Fmsy would be in those two regions, but we presented them because the board wanted to see all possible biological reference points.

MR. GIBSON: The other thing that I remain concerned about is the apparent discrepancy between the percent SPR level that is associated with Fmsy in the northern region. I think you said it was 50 percent; and yet the proxies for the SPR proxies in the other regions

at 30 and 40 percent levels implies that the northern stock is much less productive on the terms of recruits per spawner.

I think you mentioned the caveat about what if that wasn't true. I'm just wondering what the logic was that if you get a reasonable stock-recruit curve and that relates to 50 percent SPR at Fmsy, the overfishing limit, what was the rationale to drop the 30 and 40 percent in the other regions; those proxies for the Fmsy that you didn't think was reliable.

MR. McNAMEE: This was another pretty significant debate that we had at the technical committee level. In answer to your question, the comparison that we were making was the MSY calculations for Southern New England relative to the other regions – and, again, we didn't necessarily have a good way to say that they are the same; and so when we picked the SPR calculations for the other areas, we fell back to, again, a meta-analysis of other similar types of species. In general, those other species that have similar life histories to tautog use 30 and 40 percent metrics rather than something higher. To go with something higher was unprecedented from what we were able to review and we weren't comfortable that we had the information to justify that.

VICE-CHAIRMAN NOWALSKY: Next up for more questions on the report, we will go to Dave Simpson.

MR. DAVID SIMPSON: I think, Jay, the report was great. I really appreciate the technical committee taking the extra time between our two meetings to bring some clarity to the issue of Long Island Sound and the importance and implications of keeping that together or splitting it apart. I did note in the report that we received unfortunately Table 5 was missing, so the table that represented – there was a heading there for it but the table itself that shows the MRIP data broken out by area wasn't available.

I think your figure was the first time that folks around the table have seen that. I think probably in their preparation they were looking again at VTR data. Of course, you explained, especially in response to questions, some of the concerns. I just wanted to reiterate that vessel trip reports are coming from federally permitted party and charterboats and some state-waters fishermen.

If you look at the MRIP data, that only represents about – all party and charterboats represented about 6 percent of the landings; 94 percent coming from private boats and shore anglers. If you take a rough guess that half of those party and charterboats are federally permitted, your sample is 3 percent of the total. Unfortunately, it is not representative.

I think this is important; because, as you say, the technical committee and stock assessment didn't quantitatively use this, it created an impression – the strong impression of where fish are coming from that I think the MRIP data provides a different perspective on, and you see some flips in proportions. For New York, it is actually a flip that it is not 40 percent coming from Long Island Sound; it is 60 percent. If I could, with the board's indulgence, I did provide Melissa with a table and a couple of figures that helps support – is this the figure I gave you, Melissa?

VICE-CHAIRMAN NOWALSKY: Well, what is the question you're getting to here, Dave? Perhaps this will filter into the discussion on motions for management action.

MR. SIMPSON: Well, I want to share with the board, to answer some of the questions and concerns that were expressed, the basis for the assessment. You heard that the technical committee or the peer review, actually, was downplaying the importance of the biological distinctions in stock areas – the big break being between New York and New Jersey – and instead was emphasizing the distribution of the

species and the distribution of harvest and landings.

I think we need a clearer understanding, which MRIP data provides, of that sort of thing. Another issue, when we choose stock areas, is this idea that, well, it is the Connecticut survey, so Connecticut goes with Southern New England and New York and New Jersey can go together; so we've provided this graphic to show that indeed the Long Island Sound Trawl Survey covers both New York and Connecticut waters equally.

This is depicting the distribution of tautog based on our trawl survey over 30-some years; so you can see we sample equally in New York and Connecticut waters and the distribution of the catch very closely reflects the geology of Long Island Sound, which is to say the structure being predominantly in Connecticut waters.

Because of the last Ice Age, that is where the rocks were dumped at the end to create the reefs and the islands in comparison to basically the beach front – the bluffs that you have in the western two-thirds – eastern two-thirds of Long Island, rocks and structure again to the west, which you can see reflected in tautog distribution. Some of our most important sites are in New York waters. All of our biological data reflects that, so I think that is important for people to see. There were two more slides.

VICE-CHAIRMAN NOWALSKY: Well, again, I'm trying to get to what the question is at this point.

MR. SIMPSON: It is actually not a question. It is supplementing the information that the board I think really needs; and that is from an MRIP perspective what the distribution of catch actually looks like. That is what this shows. Jay actually slipped, I'll say, when he was describing Rhode Island's catch, saying based on VTRs the catch comes mostly from Rhode Island Sound and Block Island Sound.

Later he refined his comment to say, well, mostly it comes from Narragansett Bay. That is what MRIP reveals is that the VTRs mislead people to believe because when you hear Area 612, for example, off of New York and New Jersey, you think there is a common fishery going on between New York and New Jersey out in ocean waters; and the fact is there is not. That is not where the predominant –

VICE-CHAIRMAN NOWALSKY: I'm going to ask that you hold the comments at this point and let's stick to questions about the report, because I think that statement that was just made is not one that is strongly backed up by information we have at this point. I certainly want to give you the latitude to offer your comments. If you have a question on the report, please ask the question at this time.

MR. SIMPSON: We do need to cover this. It is not a question but this is the fundamental problem I have; and this is why we're talking about this in May and we couldn't settle it in February. This information does need to be shared with the board so that we can make the right decision today.

VICE-CHAIRMAN NOWALSKY: Great; and I will certainly give you the latitude to continue with that discussion, but let's finish with questions on the technical committee report. I had John Clark's hand up.

MR. JOHN CLARK: Thank you for the very informative report, Jason. I just was a little confused. You said at one point that the peer review thought that some of the regional differences may be due to almost like a data artifact, like there was more data from some area, and yet they strongly recommended going with the regional approach. I believe just now when you were talking about this – again, I may be misunderstanding – I thought you made it sound like as more data became available, maybe the Fmsy's would be similar for the different regions. Will more data, do you think, bring a stronger argument for the regional

management approach or will the biological characteristics start to look more similar?

MR. McNAMEE: Just to clarify, as we looked at the information, I think it is important to remember the sequence here. We had a benchmark process, lots of meetings, lots of math going on and all this sort of thing. Then the peer review happened and then all the things after the peer review happened.

At the time we were looking at the biological information and using it to kind of split our regions apart. That was before the peer review. During the peer review the reviewers said, "Well, we appreciate the work that you did; however, we believe the information you're looking at is confounded due to differences in the amount of data for each of the regions that you're looking at. Therefore, you can't statistically say that they are in fact different from each other."

So what we were using and what we used to kind of begin to tease apart this information, the peer review did not weight that very highly. Hopefully, that clarifies the first part of your question. It was just a matter of sequence. They more or less dismissed or down-weighted the biological information with the exception of the migratory information.

In that case I think they looked at the information that we had provided that we had looked at, and they said, "Even though you can't necessarily find a smoking gun to say this region should be together and this region should be together, what you're doing is the right approach. Go as small as you can that the data will allow you to entertain." That is the approach; so they supported finer-scale assessment and management. However, they did not say Region Breakout A is better than Region Breakout B.

MR. CLARK: So in conclusion, then, as more data becomes available, it might be possible to make even finer regions like you were saying about a Long Island Sound Region and so forth?

MR. McNAMEE: Yes; I think in particular different kinds of information might be very valuable, things like genetic analyses. There have been some studies, but I think the one that is going on at the Virginia Institute of Marine Science is pretty comprehensive. Now you can start to quantitatively and not – you know, what we did was look at all of the information we had available and we tried to build a case.

It is always preferable if you can do something that can quantify more specifically these fish go together in this area, these fish go together. It may in fact be the resolution that a genetic analysis comes up with this too fine for us to be able to analyze, but it is still good information. Yes, I think as we progress through time where we're doing a better job of sampling this fishery and things like that all throughout the range, I think the information will improve and so will our ability to differentiate regions from each other.

DR. DAVID PIERCE: Thanks, Jason; again, a great report. I have a question about Table 6B on Page 8 of the report; and this is with regard to the three-year average of fishing mortality rate in Massachusetts and Rhode Island. The number that is provided is 0.38. Now, Massachusetts and Rhode Island, for a number of years, collectively have established quotas for the tautog fishery, the commercial fishery in our waters.

I know that the recreational fishery takes most of the fish; but nevertheless did you and the technical committee have an opportunity to evaluate, look at whether the hard quotas we put in place were effective in constraining the fishing mortality rates – and also our recreational fishing measures, for that matter – were they effective in constraining the fishing mortality rate to the targets we've been working with for so many years?

In other words, we haven't been working at 0.38 as a target or 0.16. It had been another number and I can't recall exactly what it was. But, to what extent were the restrictions in our two states effective in keeping us to the mortality rate target that we've been living with as a region? You've got 0.38 here so I'm just wondering why is it so high.

MR. McNAMEE: It is a good question. I think the first and most important thing to remember is when we were doing the Rhode Island/Massachusetts assessment using a VPA to perform that, it is a completely different technique. It is much more deterministic with how it treats harvest information.

There are two things that kind of play into this. That is the commercial quotas, because of the magnitude of the recreational fishery, are not going to have a strong influence. The commercial quotas kept the harvest of the commercial sector within that kind of 10 percent realm it had historically been in. I think Massachusetts is a bit higher, but in Rhode Island it is about 10 percent.

It is effective in keeping it within its sort of historical proportions. Overall for the harvest, though, the recreational sector overwhelms it. With regard to the recreational side, we have put in a lot of different procedures over the years. We have been pretty proactive increasing the minimum size, putting in spawning closures in Rhode Island, very low bag limit in Massachusetts.

However, it is just an artifact of the sampling of this fishery by MRIP as well as the magnitude again of the recreational side that the harvest would be low for a year or two and then it would jump up dramatically, over a hundred percent in one year. Again, I think it is more an artifact of the MRIP sampling than of what actually happened.

But to loop back around to your question, according to the VPA that we were managing with, we were doing a decent job of staying within the bounds of what we thought the fishing mortality was. However, with this new analysis using the statistical model, the information changed; and so we have not been doing a very good job of constraining our fishery when using the statistical framework.

DR. PIERCE: If I may, Mr. Chairman, one follow-up question. Is it also possible that the reason why the mortality rate is higher than where we thought it would be is this illegal harvest? We have many examples in Massachusetts, certainly, of illegal harvest, closed seasons not being adhered to, fishermen not reporting properly.

We have enforcement actions that have been revealing this problem; so could that be one reason Massachusetts has that problem and Rhode Island would have that problem, too. Is that possibly one reason why the mortality rate is higher than expected?

MR. McNAMEE: I will answer in two ways. It was a number of years ago that we actually looked at – we were seeing that we appeared to be meeting our fishing mortality targets and we were not getting a response in biomass. We weren't getting this increase in biomass. So an exercise – it was Genny Nesslage who did the exercise, but she tried to determine what the difference would be between where we think F is and why we're not getting the response that we expected.

She turned that into a mortality gap and then applied that up to the population to see how many fish that would actually equate. It was a huge amount of fish. Maybe that is realistic and maybe it is not. It seems at the time that it would need a large infrastructure to be able to secretly move these fish around; and maybe that exists, I don't know.

The second part of what I will say is that really doesn't play into the fishing mortality estimate because we don't know what that harvest is. It

doesn't play into our calculation. Could it be the reason why we're not seeing a rebound or any biomass rebuilding; yes. Does it impact the calculation of these terminal year estimates; no, because we don't know what that harvest is.

VICE-CHAIRMAN NOWALSKY: Okay, I have not seen any other hands, so do we have any other questions? One more from Pat Augustine; question on the technical committee report.

MR. AUGUSTINE: A question on their request, Mr. Chairman. Do we need to make a motion to adopt their biological reference points or did we do that in our previous meeting? I don't believe we did.

VICE-CHAIRMAN NOWALSKY: The next order of business will be considering an initiation of an amendment to address stock units and the reference points contained therein, a rebuilding program, so we don't need a motion with regards to accepting the technical committee report or anything at this time.

MR. AUGUSTINE: Follow-on, Mr. Chairman. We have a motion on the table that was tabled at our last meeting, Item Number 5 under Index of Motions. It says, "Move to substitute to develop an addendum with three regions, northern, southern, and DelMarVa, with management measures in each region to end overfishing and rebuild overfished regions to target biomass levels." Were you going to take that or could we take that from the table, please?

VICE-CHAIRMAN NOWALSKY: Well, hang on and let me check with staff on that. My initial consultation with them this morning indicated that the table was clear, but let me double-check on that. I'm getting the word from staff that the slate is clean and that we do not need to bring a motion back from the table.

MR. AUGUSTINE: Point of correction, Mr. Chairman.

VICE-CHAIRMAN NOWALKSKY: Let me turn to Toni for clarification.

MR. AUGUSTINE: It was moved to table at –

VICE-CHAIRMAN NOWALSKY: This is something I'm getting from staff, so let me give them a moment. Here is what the issue is. That motion that you're contemplating contemplates initiating an addendum. Staff has indicated as per the agenda that in order to accomplish what is required at this point for a rebuilding program; that it would require an amendment. We're working to figure out the right way through that. Are there any other questions on the technical committee report at this point?

CONSIDERATION OF AN INITIATION OF AN AMENDMENT

All right, seeing none I think that moves us on to Agenda Item Number 5 with a potential board action for board action to consider initiation of an amendment to propose the two stock unit definitions and a rebuilding program. Before we get to that point, let me turn the floor back over to Mr. Simpson, who can conclude his presentation and the information he wanted to present to the board to feed into that discussion.

MR. SIMPSON: I appreciate that. Melissa, could you put up that last slide that we had or Mike? It is the slide of the MRIP data. We covered the Long Island Sound Trawl Survey. This is the Marine Recreational Information Program data, a bubble plot of the expanded harvest. The center of each of those bubbles is the sample site, the interview site, the intercept site.

It shows a lot of detail that you don't get it a table, and that is why I thought it was a great supplement. As I started to say, you can see how Rhode Island's harvest is really concentrated up in Narragansett Bay. The color coding, to be clear, green indicates that the fishermen that were interviewed indicated they

were fishing in inland waters of one type or another.

Yellow indicates shows that they indicated they were fishing in ocean waters less than three miles from shore. Generally speaking, they were fishing in state waters. That red line – they're fishing less than three miles from shore; red indicates that they were fishing greater than three miles from shore. You can see there is an overwhelming tendency for tautog fishing, not surprisingly, to occur in nearshore waters.

It helps to begin to understand the degree of overlap in New York between the neighbor to the north, Connecticut, and their neighbor to the south, New Jersey; that there really is a fair amount of separation. There is clearly overlap in the New York Bight Area, in New York Harbor. They're probably going back and forth.

I'm sure they are, but I think this helps a lot in understanding where the fishery is occurring. I thought it would be really important for the board to see and kind of bring life to the table that the technical committee put together. I appreciate the moment on that. If people have questions, if you don't mind.

VICE-CHAIRMAN NOWALSKY: Go ahead, Mr. Clark.

MR. CLARK: Dave, this is suggesting that pretty much all your tautog landings are coming from the eastern half of Connecticut?

MR. FOTE: John, pull the mike closer.

MR. CLARK: Sorry about that; I was just asking whether that indicates that your tautog landings in Connecticut are overwhelmingly coming from the eastern half or a third of the state there?

MR. SIMPSON: Yes; that was a really interesting thing in doing this graphically. You can look at tables all day long and look at summaries; but when you put it on a map, it did open our eyes. We do know that there is a very substantial fishery to the east; but based on the information they gave us fishing in inland waters, we can see there is very little overlap. There is some, but there is very overlap with Rhode Island.

I was talking with Dr. Van Voorhees last night about this a little bit, weighting on sites and so forth; and as we look ahead to doing the MRIP Survey, we're certainly going to take another look. We've already had clues of this, but take another look at the weighting of our sites to the central and west because there are certainly fisheries. Where it starts to get there is New Haven.

New Haven and west; there is a lot of great tautog fishing. If you remember from our trawl survey index, there was a lot of catch down that way. Those things complement but don't map one to one because our trawl survey is picking the fish up during the spawning season when they're out on open bottom, where they're available to the trawl. We'll catch 500 pounds of tautog in a tow in Connecticut or Rhode Island or we used to when the stock was bigger. But, yes, it is great insight as all the states, frankly think about their MRIP surveys. Looking at these things graphically I think is really insightful.

VICE-CHAIRMAN NOWALSKY: Jason, you did not want to make a comment on that? We'll take a couple of comments or questions on this information. I saw Tom Fote's hand.

MR. FOTE: I'm having real difficulty with this table that Dave just put up there. If I'm looking at this right, it says most of our landings in New Jersey come from within state waters. Truthfully, just the opposite is true. If you think about we fish on a lot of our artificial reefs and wrecks off there; and so they're all outside of three miles. We only have two reefs inside of state waters.

The rest of the 13-1/2 – actually 13-1/2 are all in federal waters and that is where a lot of that – plus a lot of the wrecks are all further off than that. This thing doesn't show me really anything. What it shows me is that we have poor data that is going into this, because we're not fishing inshore except for a few areas like Point Pleasant Canal, which most of those fish are illegal. I'm trying to figure out how this table works.

VICE-CHAIRMAN NOWALSKY: Yes, I think that's a fair question, Tom. I mean just on a personal note I can let you know that where most of my fishing occurs out of Atlantic City – and I know I'm one of the few people submitting VTRs from there – this reflects no fishing activity for tautog beyond three miles, and that is about all that there is for boat fishermen there outside of the shore-based fishermen. Emerson, did you have a comment?

MR. EMERSON C. HASBROUCK, JR.: Yes, thank you. Mr. Chairman. It relates to the issue that Tom just raised. Dave, when you started your presentation, I think what you said – and please clarify for me – was that the circles are relative to intercept sites; is that correct?

MR. SIMPSON: Yes.

MR. HASBROUCK: Okay, so where the base of the circle is, is the intercept sites; and then the diameter of the circle is based on did you say the number of people that they spoke to or the amount of catch or both?

MR. SIMPSON: It is the expanded harvest estimate.

MR. HASBROUCK: Okay, but that doesn't mean that is where the harvest took place? It is where the fish were brought ashore. It is the intercept point; it was where the fish were brought ashore. It is not where they were harvested; so the harvest area, for instance, may reflect more your trawl survey data. This, again, doesn't really show where the harvest took place; just where they were landed and the amount of fish that was landed at that intercept site?

MR. SIMPSON: Exactly, and then you draw an inference of what water body they may have been fishing in, but it doesn't mean they were fishing – you know, it is a boat so they may have gone and very commonly do go across the Sound to fish, but then they returned home. The whole point is we do that a lot especially with tautog. Connecticut goes to New York and New York goes to Connecticut. You're exactly right, but it is brought ashore at the indicated point.

VICE-CHAIRMAN NOWALSKY: Okay, so where we are is we've got two items of business that we need to address before we move into further discussion about potential management response. One, we have the question of tabled motions that we need to address.

The second item that I'm also going to turn to Toni for is to address what we specifically need to do through amendment of addendum so that we're clear on what our actions here today would need to be. Let me first turn to Toni for that and then Mike is going to bring up the index of motions from the last meeting and we can figure out what we need to clear from there, how we can address that and move forward today.

MS. KERNS: The board was considering changes to the stock unit definitions, and changes to the stock unit definitions, through the plan, need to be changed via amendment. Tautog is one of the first management documents that was completed by the commission. It has a very limited adaptive management section.

There are very few things that you can do through adaptive management in tautog. This is one of those things that we need to do through an amendment. If the board wants to take out more than one set of stock units to public comment, we can do that. The

amendment would, at minimum, contain a rebuilding schedule for those units that are overfished and overfishing is occurring.

If we take out more than one, we'd have a couple of different rebuilding time frames or rebuilding schedules for each of the compartments that we took out for comment. In terms of the motions that are on the table, if the board has no objection, you don't have to take those motions – you can decide not to take them off the table. You could deal with it that way, Adam, in its simplest form. Otherwise, if there is an objection, then we would need to vote them up or down.

VICE-CHAIRMAN NOWALSKY: Okay, so if I'm understanding clearly, we could take multiple stock unit options out for public comment or we could include one option; but either way they have to go through the amendment process, and we just need to decide today whether we're going to take one or multiple out for public comment?

MS. KERNS: Correct; and the board would also need to give staff direction if you want them to also address rebuilding in that amendment; so do we want to also consider management controls to address those areas that are overfished and overfishing is occurring.

VICE-CHAIRMAN NOWALSKY: Okay, let me turn to the board for questions or clarifications on that matter. While we're doing that, Mike, if you could bring up those past motions and then we can decide how to address those or dispense with them. Dave Pierce.

DR. PIERCE: Mr. Chairman, I suggest in the interest of simplicity and keeping us focused; that in response to the presentation that was just given to us by the technical committee, by Jason, as to the options for a stock definition – as to the options they feel make the most sense, we can agree, the board can agree to not consider the motion that was tabled or postponed until today because that motion, first of all, references an addendum.

You've already addressed the issue it should be an amendment. It also states that we should consider a northern and region breakdown. The northern and region breakdown is irrelevant now because of that particular breakdown being shown in Table 6C; and that is not anything that the technical committee said we should be considering. I think we can start fresh and not get bogged down by that motion that I had made at the last meeting that was tabled until today.

VICE-CHAIRMAN NOWALSKY: All right, let me finish with the rest of the comments. I'm somewhat hopeful that is the direction the board will head. Dave Simpson.

MR. SIMPSON: At this point I had a motion if that's appropriate.

VICE-CHAIRMAN NOWALSKY: Let me finish with dispensing these first. Pat Augustine.

MR. AUGUSTINE: Mr. Chairman, I can assume according to Roberts Rules of Order if we just don't touch it, it goes away automatically at the end of the meeting and we don't have to do anything more.

MR. RUSS ALLEN: Mr. Chairman, I just want a little bit more clarification on the addendum/amendment process. I thought I heard Toni say that in order to change reference points you to go through the amendment process; but we did not do that for striped bass. The last time we did Addendum IV. I was kind of confused on that because I've seen the precedent already set; so I just wanted to make sure.

VICE-CHAIRMAN NOWALSKY: Toni, can you clarify for Russ, please.

MS. KERNS: It is the stock unit boundaries.

VICE-CHAIRMAN NOWALSKY: I don't know if that helps you, Russ.

MS. KERNS: Thanks, Toni; that is what I thought, but when I heard you say reference points and not stock unit boundary – I think you said them both, but I just wanted to make sure that was clarified.

MR. HASBROUCK: To follow up on what Russ said, and not to pick on you, Toni, but I thought you said that we need to decide what stock definition we want to include in the amendment and do we want to include a rebuilding strategy. That rebuilding strategy is going to be based on new reference points; isn't it?

MS. KERNS: Well, when you have a stock unit boundary, then you would have reference points that go along with that stock unit boundary, and then those reference points would then lead to a rebuilding plan; and then the rebuilding plan would potentially lead to management measures, depending on how you are performing up against your reference points. Logically, since you can't change the stock unit boundaries without an amendment, we would incorporate all of these parts into the same amendment at the desires of the board.

VICE-CHAIRMAN NOWALSKY: Okay, that brings us back to these motions that are here. It sounds like we have two possible courses of action. One course of action is to simply not address these at all and they will simply disappear at the end of this meeting unless the board would like to formally withdraw them.

Let me just simply ask is there any objection at this point to withdrawing and not moving forward with these motions today? Okay, seeing none from the board, I will then turn to Dave Simpson, who indicated he had a motion to address the stock unit and rebuilding program amendment, and we'll start fresh from there.

MR. SIMPSON: I provided a motion to Mike; and with a little help from them and getting clear that we do in fact need an amendment**, I move to initiate an amendment to respond to the 2015 Benchmark Stock Assessment for three stock areas, Massachusetts/Rhode Island, Connecticut to New Jersey, and Delaware to North Carolina.**

VICE-CHAIRMAN NOWALSKY: I'll just first ask staff does this address the concerns about the need for defining stock units in the FMP?

MS. KERNS: Yes.

VICE-CHAIRMAN NOWALSKY: Okay, so that would be a valid motion. I will look for a second to that motion, and I see one from Mr. Augustine at this time. Discussion on the motion.

MR. FOTE: Because of the problem and putting New Jersey up with Connecticut, we would have two entirely different fisheries. We got moved into summer flounder and put a regionalization; and at least we knew the fish migrated between Connecticut, New York and New Jersey. This fishery is not a region. This fishery basically prosecutes the fishery in a different pattern.

We don't have the same structure that Long Island Sound does. It has nothing to do – the fish do not migrate from Long Island Sound to New Jersey. I can't see any valid reason for putting New Jersey in with Connecticut in this; so I would like to include the other option in for public hearings that would basically include the option of Massachusetts, Rhode Island and Connecticut; and New Jersey and New York; and Delaware through North Carolina.

We're going to public hearings and I need something to take out to public hearings that at least makes sense. This does not make sense from New Jersey**. I'm looking to amend the motion to at least consider that when we go out to public hearings.** I mean, truthfully, if you look at our fishery and the hundred miles of it,

we belong in the southern region and not in the northern region at all. We should really be in the DelMarVa if you look at where we catch our big fish and where our private boats actually operate at. That is what I'm looking at right now. I would like to get a second for that.

VICE-CHAIRMAN NOWALSKY: So is that a motion or are you looking for someone else to make the motion?

MR. FOTE: No, I'm looking to make motion.

VICE-CHAIRMAN NOWALSKY: Okay, and your motion is?

MR. FOTE: **That it basically include the other options that were in the technical committee report as valid.**

VICE-CHAIRMAN NOWALSKY: And that would be the one other option of Massachusetts through Connecticut; New York, New Jersey; and Delaware through North Carolina, but not include the two regions nor the one coastwide; would be that correct?

MR. FOTE: That would be correct.

VICE-CHAIRMAN NOWALSKY: Let's give staff a moment to get that up. Do I have a second for that; John Clark. Okay, we now have another motion before us. We can go ahead and continue the debate on these. Mr. Simpson.

MR. SIMPSON: Is it my turn or was somebody else ahead of me? If it is my turn, then –

VICE-CHAIRMAN NOWALSKY: Okay, I've got Mark Gibson down on my list so let me turn to him and then I'll come back to you.

MR. GIBSON: I was prepared to support the initial motion. On the amendment, I guess I'm probably not in support of that at this time. I think the stock area definitions is a decision for the board as to what to go out with and not so much for public input. They're simply going to cherry pick where Connecticut should go based on the amount of reduction they need to take in the regions that doesn't receive Connecticut. I don't think you're going to get objective public input on that matter, and I think we're better suited to make that decision here and narrow the scope of the action. I guess I don't support the amendment.

MR. SIMPSON: Similarly, I think the original motion is stronger. To Tom's concern, I do share that concern. It is always difficult to figure out where to draw a line. Unfortunately, we have only the options that were evaluated at this point. There has been a lot of discussion, including in Jay's presentation the discussion that down the line a Long Island Sound Assessment would be the preferable way to go. That would be my intention moving forward.

As I mentioned yesterday at the Policy Board Meeting, the University of Connecticut – and the commission is well aware of this – is already beginning work on a Long Island Sound Stock Assessment. I would envision that if we pass the original motion that we would begin to work almost immediately to recognize the difference between the South Shore, Long Island and New Jersey area versus Long Island Sound.

The essential thing in my mind is that splitting the Long Island Sound is a fatally flawed decision or pathway to go down; because as the assessments were done, it missed the realization that the Long Island Sound Trawl Survey is sampling both New York and Connecticut; and the Long Island Sound Trawl Survey is used as an index for a Massachusetts to Connecticut assessment but wouldn't be the New York/New Jersey assessment.

I use the analogy of trying to fill a bucket full of holes. We're going to keep losing fish to a southern region that won't be reflected in their stock assessments; and we'll be perpetually cutting our catch to no avail. It is fatally flawed to break Long Island Sound in half. It is not just

an issue for Connecticut and New York. For the board that is considering the stock, it is 30 percent of the total harvest, so it is a trivial area. I don't support the amendment and I support the initial motion.

DR. PIERCE: We have a very good report from the technical committee; and we have advice that is not going to change. I'm going to go with that advice, recognizing that there is some uncertainty with regard to what is preferred from the technical committee. However, after listening to all of the discussion and the answers to the questions that were posed to Jason, I think it makes a lot of sense for us to go with the original motion and not to go with the motion to amend; that is, to include that additional stock area.

The reasons to me are quite clear; and David Simpson has already touched on two of them. Number one, we really do need a Long Island Sound stock unit, but we're not going to get there; not yet. We have to start off with a stock unit that makes the most sense. The one that makes the most sense is the one that does not split Long Island Sound.

We've heard this argument about the Sound and not splitting the Sound at our last meeting and now here as well. We really should not be splitting the Sound. The other reason why I strongly prefer the original motion is one comment that was made by Jason in his presentation, and that is that the technical committee strongly endorsed the New York-New Jersey-Connecticut Region with caveats, but nevertheless strongly endorsed it. We have to take action on this. I don't want to prolong further debate after public hearing on basically what the technical committee has provided. I'm ready to go with that particular recommendation and advice from them. The original motion is the one that I will be supporting.

MR. FOTE: I can understand why Massachusetts and Rhode Island want to go with the original motion because they manage to push Connecticut down on us. New Jersey, which has no fishery that compares – I mean, truthfully, we fish – as was put out in the document and report, we get larger fish in New Jersey than you do in Connecticut, Rhode Island and Massachusetts.

They are more similar on the growth patterns of those fish and the aging patterns of those fish. Also, if I come out with just this proposal, you're going to get the same as what happened in the last regionalization. You're going to get no support whatsoever from New Jersey and from any of the public hearings that happen there; and so we just get another plan jammed down New Jersey's throat.

I mean, this is supposed to be done in a fair manner; and sometimes it just looks like because we're stuck in the middle we get caught in the middle of this. We really belong in the southern region. Just because when you did the stock assessment, you didn't put forward that we should be down in the DelMarVa and basically where we started out from, and all of a sudden got basically moved up north now. I have real problems with the process that we go through that basically kind of gives us the short end of the stick just because we're in the middle.

MR. CLARK: As the seconder of the amendment motion; I'm very much in favor of taking it out to the public with both options. The technical committee endorsed both options. I understand the arguments on both sides.

Being from a state that has a shared body of water, we have many regulations that differ between Delaware and New Jersey; and we handle that. It is not that big a deal. I think the public should have the opportunity to comment on both of these because they were strongly endorsed by the technical committee. Thank you.

MR. ALLEN: John hit on many of the points I was going to talk about. In listening to Jason talk and going through the technical committee report, there were a few things that stood out to me. That was the biological evidence from New Jersey is different than Long Island Sound. When I hear people use that double standard as this is the best way things should be, I'm not so sure about that when you get that kind of information.

The growth constants are not consistent between New Jersey and Connecticut; another thing that came out of the technical committee report. The key thing was the technical committee and the peer review agreed that either three-region option was okay to move forward with and not one or the other looks better. They supported both of those options.

I think we'd be doing a disservice to the public not to have those two options out there. I don't really understand why we would want to go with one option. I can agree with Mark if we wanted to have the conversation now and decide, okay, this is what we're doing in the future. Then there is no need for public comment. I'm comfortable with the amended motion and I'm not comfortable with the initial one. Thank you, Mr. Chairman.

VICE-CHAIRMAN NOWALSKY: Let me apologize for not following an order of taking comments in opposition and in favor in alternating order. I let it go in for and against in groups there, so let me try to get back to the idea of for and against. We just heard a comment that I believe was in favor of the amendment. The next speaker I had on the list was Emerson. Are you for or against the amendment?

MR. HASBROUCK: In favor of the amendment.

VICE-CHAIRMAN NOWALSKY: All right, let me go to Pat Augustine. Are you for or against the amendment?

MR. AUGUSTINE: Opposed.

VICE-CHAIRMAN NOWALSKY: All right, go ahead, you have the floor, Mr. Augustine.

MR. AUGUSTINE: Two of the previous speakers hit it right on the head. Jason's presentation said they could go with either one. Option 1 would have certain advantages; Option 2 would have other advantages. To deprive the public – I supported the first one because I wanted to see us focus on what we were trying to accomplish here; but I think we're denying the public an opportunity to see it. We're kicking the can down the road. It doesn't matter –

MR. HASBROUCK: I thought you were going to speak in opposition.

MR. AUGUSTINE: I'm speaking in opposition of Amendment 2. I would actually move to table both of them and create one more motion that encompasses both the alternatives. I'm opposed to the amendment.

VICE-CHAIRMAN NOWALSKY: Well, if you're making that motion, I am going to rule that out of order. It is my belief that exactly what the amendment does is that it creates the two options to go out to public comment. The amendment, as it is posted, does not only take that one option out for public comment; it would create a main motion that takes two options out for public comment.

MR. AUGUSTINE: I stand corrected.

VICE-CHAIRMAN NOWALSKY: Okay, I will next turn to Emerson, who was in favor. I know Mr. Augustine said he was opposed; but I think after that clarification, he may have actually been in favor. Mr. O'Reilly, were you in favor or against the amendment? Okay, I've got two speakers that are in favor of the motion to amend. Do I have anyone who hasn't yet spoken who is opposed to the motion to amend? Okay, seeing none, I'll turn to Emerson and then Mr. O'Reilly.

MR. HASBROUCK: Supporting the amendment doesn't mean that we can't choose in the future

to go with Massachusetts and Rhode Island and Connecticut through New Jersey and then Delaware through North Carolina; nor does it commit us to Massachusetts through Connecticut and New York and New Jersey. We still have those options going forward. I would like to hear what fishermen in New York have to say about these two options. I would like to get their input.

I'm also interested in what fishermen from Connecticut, Rhode Island and New Jersey have to say. Before I make a final decision, I'd like to get public comment on these two options; and particularly since both of these options are – well, they're not both preferred, but they're both supported by the technical committee. One was preferred and one was whatever we called it. Since they both have the support of the technical committee and are supported by the latest stock assessment, my suggestion is let's give ourselves the option here of what the public has to say before we make a final decision.

MR. ROB O'REILLY: I'm falling out in that camp myself. I think if it were a little more clear-cut around the board, it would be one thing; but it seems that we spent a lot of time debating both situations on where Connecticut will end up. We do have a situation to look forward to. It seems to me for Long Island Sound; that is going to take a little time, obviously.

I think we still come back; we may have some of the same debates. I also think probably when we start the rebuilding, based on getting all the 2014 data in and looking at that, it may be that the rebuilding looks different even in the way it looks now. I would suspect that is going to be the important here. I also wish to see both these options. We have gone back and forth last meeting. There was a lot of discussion this meeting. There is more discussion. I think that means that we're not quite ready, and I do want to see both go out.

VICE-CHAIRMAN NOWALSKY: Okay, seeing no further hands on this topic, I will give the board a moment to caucus and then we will call the question. That is then going to need to be followed by – once we dispense with these motions, we will need to address direction to the PDT. **Let me clarify what you're caucusing on right now is the motion to amend to include the additional stock area boundaries of Massachusetts and Connecticut, New York/New Jersey, Delaware and North Carolina. Motion by Mr. Fote; seconded by Mr. Clark. I'll give the board a moment to caucus.**

(Whereupon, a caucus was held.)

VICE-CHAIRMAN NOWALSKY: Okay, is the board ready for the question? All those in favor of the motion to amend please your hand. It was seven in favor. All those opposed, three opposed; null votes, zero; abstentions, zero. **The motion carries seven to three, zero to zero. The amended motion will now become the main motion**. Bear with us a moment while we get that amended motion up.

The motion before the board: **move to initiate an amendment to respond to the 2015 Benchmark Stock Assessment for both sets of three stock areas; the first being Massachusetts through Rhode Island, Connecticut through New Jersey, and Delaware through North Carolina; the second being Massachusetts through Connecticut, New York and New Jersey, and Delaware through North Carolina.**

Is there a need to further caucus on that motion? Seeing none, we'll call the question. All those in favor raise your hand. I count nine in favor. All those opposed, 1 opposed; null votes; abstentions. **The motion carries by a vote of nine to one to zero to zero**. Okay, I've got a couple of hands going up. This is relevant to the direction we're going to give the PDT to move forward. Mr. Simpson.

MR. SIMPSON: It is always awkward to offer up a plate of salad or steak to the public and ask them to choose which they'd like to dine on. I think it is important that they know the nutritional value. To be serious, the important issue for the public to understand and clearly to me for the board to understand deeper; it is not where to put Connecticut.

It is where to put the Long Island Sound Trawl Survey. That is the heart of this. What I think we'll need from the PDT is a better understanding of what it will mean for New York and New Jersey to be managed absent the information from the Long Island Sound Trawl Survey that is being conducted in an area where more than half of New York's harvest is coming from.

The flip side of that, I think the public will need a better understanding of what it will mean for Massachusetts through Connecticut to be managed where the Long Island Sound Trawl Survey is included but New York's harvest and exploitation on that stock is not. I think we will all need a better understanding of that so that we can make an objective, intelligent decision at the end of the day on this.

VICE-CHAIRMAN NOWALSKY: To that point, let me put Toni or Katie on the spot here. Maybe you can just provide some direction to the board on some questions you'd like specifically answered today from the board as we move forward with this draft amendment before it comes back to the board.

MS. KERNS: Well, recall that the first step in an amendment process is a PID. The PID is typically more general unless the board would like us to be more specific within the document. We ask general questions and I think one of those questions would be should the stock be managed using the first stock area boundary option or the second stock area boundary option. There wouldn't be specific rebuilding time frames or anything following that.

We would ask if the stock is overfished and overfishing is occurring, how much time should we give to rebuild the stock, general questions of that sense, what types of management measures should we consider to rebuild the stock. In the background section, David, I'm hearing from you that you would like more specifics than maybe we normally would do in a PID document.

We can provide that information and we can work with you and maybe Greg in order to pull that information together so that it is understandable for the public. I think that is going to be the hardest part is simplifying it enough so that folks really can grasp what is going on. We can work with Katie in doing that as well and Jason and other folks. If there are other more specific things instead of a more general set of questions that we typically do in a PID, it would be great for the board to let us know that today.

VICE-CHAIRMAN NOWALSKY: Okay, so we're taking the comments of what will go into the PID. From a timeline perspective, are we likely to see this in August or not until the annual meeting?

MS. KERNS: We'll shoot for August for this. We are going to looking to do some interviews soon for a new coordinator. The new person that we hire will take the species on; so there will be a learning curve there. This is a place where other staff can step in and help someone along the way, myself included. I will not make any guarantees for August, but that is what we will shoot for. The other thing that we will need to get from the board is members of the PDTA because I don't believe we have done a management document in a while, and so that PDT needs to be restaffed.

VICE-CHAIRMAN NOWALSKY: And is that an additional item you need done here today or is that something that could be put forth moving forward in the next couple of weeks?

MS. KERNS: We can do that in the next couple of weeks. You don't have to have it today but just to get it on your minds thinking about individuals that would helpful for a PDT.

VICE-CHAIRMAN NOWALSKY: Okay, so next on the list to speak I had Dr. Pierce and then Dr. Daniel.

DR. PIERCE: Okay, I'm glad to hear what Toni had to say regarding the next step; PDT, discussions about the rebuilding time frames and the management measures that would be considered for us to achieve the different targets for each option. With that said, regardless of the outcome of the public hearings and the comment that we get back and regardless of the outcome that will result from this board eventually having to make a decision as to what stock unit to adopt, we have another major issue to address.

I have already alluded to it early on in my comments; and that is looking at the first option that is going to be going to public hearing, we're assuming the mortality rate – this is Massachusetts, Rhode Island and Connecticut – we're assuming the mortality rate is 0.48; the F target is 0.15. That is a big difference; a long way to go to get to that particular F target. If we go with the other option, we'd be at 0.38.

That's the three-year average that we're working with now for fishing mortality and we have to get to a target of 0.16; again a big difference. A lot will have to be done. The recreational fisheries and commercial fisheries are going to be subjected to some rather dramatic changes, I suspect, in the management measures that will have to be considered and then adopted by this board.

This is a very big deal. With that said, I would like to make a motion that relates to a necessary step this board should take in concert with the Law Enforcement Committee. It is a motion that pertains to illegal harvest, to unauthorized harvest that we discussed in the past at previous board meetings and still as far as we're concerned in Massachusetts and I think other states as well is a burning issue that needs to be addressed.

This is what I would offer, then, as a motion**. I would move to establish a joint subcommittee of the Tautog Management Board and the Law Enforcement Committee to study problems of unauthorized harvest and sale of tautog, especially the well-publicized live-fish market in local and interstate commerce that likely is contributing to current levels of overfishing. The joint committee is to: (1) determine the feasibility of ASMFC mandating a fish-tagging program for each state that would minimize the unlawful commerce of tautog and provide traceability of all fish in commerce back to the state of origin and harvester; and (2) if feasible, then offer details of such a program to accomplish the two aforementioned objectives.**

It is work to be done; but if we don't control the market, so to speak, in other states, any particular measure taken in the northern region, let's say Massachusetts, Connecticut and Rhode Island, those measures will be likely undercut and ineffective because of the availability of markets in other states and the untraceability if the fish to those markets.

This is not exactly the same thing as striped bass tagging, but it is similar to it. It is going to involve some work but necessary work as we prepare for whatever will be in store after we're through with this amendment. That is my motion, Mr. Chairman.

VICE-CHAIRMAN NOWALSKY: And a tremendous job by Mr. Waine in reading your mind to have that prepared. (Laughter) No, but thank you very much for providing that ahead of time due to its length. Do I have a second for that? Seconded by Mr. Augustine. Let me first turn to Dr. Daniel who had his hand up before and then we'll come back for further discussion on this motion.

DR. LOUIS B. DANIEL, III: Thank you, Mr. Chairman. I'm in travel mode and didn't know I was on this board. I am on this board and I kind of asked the question why am I on this board? I don't have any tautogs. We see one every now and then; it is a rare event. I can't find any landings of tautog for us. It just dawned on me when I was sitting in the back thinking about southern flounder; that North Carolina was listed in the motion as an area for stock assessments and stuff. I don't know what you're going to get from us; and I don't know exactly what is expected of us for tautog.

I really don't think we should be on the board. I don't know what the process is for that. If somebody can give me some indication as to what this may mean for North Carolina by being included, maybe nothing, but I just don't want there to be some requirements of my state, particularly for a staff person to have to help with this assessment, if we don't have any fish.

VICE-CHAIRMAN NOWALSKY: And I will turn to staff to address your concern.

MS. KERNS: Louis, they can request to be removed from the board. It is part of the declaration of interest of whether or not your state wants to be part of the management board. There is a small occurrence of tautog down south in North Carolina, so we'd still likely include North Carolina as part of the stock unit boundary.

That does not necessarily mean you have to be a part of the management unit, per se, that specific measures to reduce F. Biologically speaking, the tautog do occur so therefore we include it as part of the stock unit boundary; just like we still include you in the stock unit boundary for North Carolina in lobster, but you're not on the management board.

DR. DANIEL: These northern fish have caused me a lot of problems this week, so I just am trying to avoid any additional problems. I agree; we have seen them in North Carolina. It is just a rare event and I just want to make sure that we're not getting calls for data on tautog and mess you up in any way. I appreciate the clarification.

VICE-CHAIRMAN NOWALSKY: Okay, thank you very much. That brings us back to the motion here before us. Mr. Augustine, did you want to speak as seconder on the motion?

MR. AUGUSTINE: Well, Dr. Pierce did an excellent job of capturing what my concern was when we had the ISFMP Board yesterday. It is a little wordy, but it covers everything. The only thing it doesn't have is a date to report back to us. If Dr. Pierce wouldn't mind, could we add in there maybe report back to the board at the annual meeting. Would that give the committee time enough to be formed and then address the issue?

VICE-CHAIRMAN NOWALSKY: Well, let me again turn to staff for some feedback on their thoughts about what could be accomplished moving forward.

EXECUTIVE DIRECTOR ROBERT E. BEAL: I think the question to the board would be do you expect the results of this or want the results of this to be included in the PID? I think we can easily come up with some general discussion points and things to bring out to the public for the PID about illegal harvest and other things that they feel like they should inform the board of.

Getting this work done and including it in the PID will not allow the PID to happen at the August meeting. It is really up to the board. I would recommend some general concepts go into the PID so that document can move forward talking about illegal harvest and basically what we do and don't know about that and have the public comment on that in general during the first round of scoping hearings and PID hearings. Then have this workgroup or joint subcommittee, I guess we're calling it, respond

to the board at the annual meeting probably makes the most sense.

VICE-CHAIRMAN NOWALSKY: Based on the previous actions of this board, we know there is some additional information out there that the law enforcement has provided before; so I think that information could be included; but in order to date stamp this at this time with the expectation it would be included in the PID would likely delay that process. Everybody is comfortable, then, that we would move forward with this, put what information we have available in the PID but would not be waiting on the PID pending completion of this task. Mark Gibson.

MR. GIBSON: I appreciate Dr. Pierce's fine motion, very well written. My question is for the technical folks. We use words in there such as "unauthorized harvest", "well publicized"; is there diagnostic evidence in our stock assessment, a diagnostic anemology that could be attributed to missing catch?

VICE-CHAIRMAN NOWALSKY: They're debating who is going to tackle this one, and it looks like Jason is the winner.

MR. McNAMEE: Katie and I were just discussing – I have looked at probably, I don't know, a thousand retrospective analyses over the past couple of weeks. I was trying to figure out which one this was. There is a small retrospective. It is not in the grand scheme of fisheries. It is not a severe retrospective at all; so I guess diagnostically we're not seeing anything where we're missing vast quantities of catch.

That being said, we could be aliasing it in the natural mortality or something like that. We're accounting for the mortality just not appropriately; so anything we can point to and say, oh, there is missing catch, there is a diagnostic that indicates that. There is nothing very dramatic that we can point to.

MR. GIBSON: Just a follow-up, Mr. Chairman, I'm just trying to get a sense of how many fish we're chasing here that we think are missing versus how many we have in hand and what the cost benefit of doing that is. I don't necessarily oppose the motion. I just don't have a sense or any kind of evidence to really hang my hat on that this is a big enough problem to undermine the stock assessment. I guess we don't know or maybe that will come out in the –

VICE-CHAIRMAN NOWALSKY: I think that's the hope is that we get more information to inform us about that. Mr. Fote.

MR. FOTE: As with other species, the Philadelphia area is basically a harbinger of a lot of illegal fish in size limits and everything else. I know Pennsylvania doesn't sit on this board, but maybe they should be part of the discussion. I know we had that problem with striped bass illegally coming out of New Jersey and going to the Philly market. We should basically look at how that affects there and try to get some – when we checked them a number of years ago, we actually checked out the market and we found a whole bunch of illegal fish coming into those markets.

VICE-CHAIRMAN NOWALSKY: Okay, seeing no further hands up, let me ask is there any objection to this motion? **Seeing none; the motion carries.** All right, that brings us to the conclusion of the agenda. Mr. Simpson, you'd like to add something?

MR. SIMPSON: Yes; so, again, for the PID, it seems we've talked about Long Island Sound issues and stock assessments. The board is aware that there is work beginning on a Long Island Sound stock assessment. I think if that is the inclination of the board to entertain at a future date, in the next year or two, perhaps a Long Island Sound assessment, I think knowledge of that would be important to have in here and maybe get some reaction from the public.

I think it helps inform decisions about where you stick Connecticut as the problem has been portrayed. My effort in the motion was to minimize disruption. If we're with New York and New Jersey, then we've minimized disruption among states. If we're with Rhode Island and Massachusetts and then we have to be lumped with New York, we're disrupting more states. I think just that notion of a stock assessment coming – and I'm getting the sense that the board is okay with that – if that were included, I think it would help the amendment process considerably.

OTHER BUSINESS

VICE-CHAIRMAN NOWALSKY: Anything else the board wants to bring to the PDT?

MR. FOTE: Thinking of what Dave just said, whether you disrupt one end or the other, disruption is basically not the real problem. The real problem is whether we should have a separate management zone for Long Island Sound. Maybe that is an answer to the question. I always sit around here and say we should have these regions based on what it is; and, of course, there is a lot of consternation by the state directors to actually split up states.

Maybe we should ask the public how they feel about if Long Island Sound should have special regulations that is based on the stock assessment of Long Island Sound. That is a great starting place to do that. I've lived on Long Island; I've fished on Long Island and realize that it is a whole different ecosystem, whether it is lobsters or whether it is menhaden, whether it is tautog. Maybe we should ask that question because it is the perfect place to do that.

VICE-CHAIRMAN NOWALSKY: Okay, and again just a reminder that Toni has requested members for the PDT as well. We also need to discuss moving forward population of this subcommittee in the coming weeks, correct?

MS. KERNS: If it is okay with the board, we can work with Adam and Jim, as chair and vice-chair of the board, and I will work with the Law Enforcement Committee on who to populate this subgroup with, and we'll move forward.

VICE-CHAIRMAN NOWALSKY: Seeing no objection and just a couple of thumbs-up around the table, it sounds good. Let me also thank Melissa for all her help here on this board. This will be her last board meeting. I appreciate all her help both as a fisherman and as acting chair. (Applause) We wish you the best.

MR. FOTE: I would also like to thank Steve for all the time he has put in, because this is his last official meeting on any of the boards of the Atlantic States and wish him well in his new endeavors and just have good time in retirement. (Applause)

ADJOURNMENT

MR. STEVE MEYERS: Mr. Chairman, move to adjourn.

VICE-CHAIRMAN NOWALSKY: Any objection? Seeing none; the board is hereby adjourned. Thank you very much.

(Whereupon, the meeting was adjourned at 10:35 o'clock a.m., May 7, 2015.)

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 20, 2015

To: **Tautog Management Board**

From: **Tina Berger, Director of Communications**

RE: **Advisory Panel Nominations**

Please find attached nominations to the Tautog Advisory Panel – Travis Barao, a recreational fisherman from Rhode Island; Edward Yates, a fire-hire captain from New Jersey; and Wes Blow, a recreational fisherman from Virginia. Please review these nomination for action at the next Board meeting.

If you have any questions, please feel free to contact me at (703) 842-0749 or tberger@asmfc.org.

Enc.

cc: Ashton Harp

TAUTOG ADVISORY PANEL

Bolded names await approval by the Tautog Management Board
Bolded and italicized name denotes Advisory Panel Chair July 20, 2015

Massachusetts
Bill Lister (comm)
2000 Main Street

Marstons Mills, MA 02648
Phone: (508)428-2461 or (508)367-0757
Email: mseasymony@msn.com
Appt. Confirmed 11/18/02
Appt Reconfirmed 11/06
Appt Reconfirmed 5/10

Robert Rogean (charterboat)
38 Jasper Road
Marston Mills, MA 02648

Phone (day): (508)775-7185
Phone (eve): (508)428-5216
FAX: (508)778-5966
Email: steadypick@mediaone.com
Appt. Confirmed 11/18/02
Appt Reconfirmed 11/06
Appt Reconfirmed 5/10

Rhode Island
Travis Barao (rec)
15 Gibbs Street
Rumford, RI 02916
Phone (day): 401.301.7944
Phone (eve): 401.270.7161
travisbarao@gmail.com

1 Vacancy (comm/otter trawl)

Connecticut
Lauren Griffith (partyboat captain)
214 Rowayton Avenue
Rowayton, CT 06853
Phone: (203)853-2556
FAX: (203)655-0860
Email: captgriff5@aol.com
Appt Confirmed 2/25/03
Appt Reconfirmed 2/07

John David Conway, Jr. (rec)
34 Edward Road
North Branford, CT 06471
Phone (day): (203)386-7965
Phone (eve): (203)484-9455
FAX: (203)386-6039
Email: jconway@sikovsky.com
Appt Confirmed 2/25/03
Appt Reconfirmed 2/07
- Confirmed interest in staying on AP (June 2015)

New York
John G. Mihale (comm rod & reel)
153 California Place North
Island Park, NY 11558
Phone: (516)432-3592
Email: hugapuck@potononline.net
Appt. Confirmed 11/18/02
Appt Reconfirmed 11/06
Appt Reconfirmed 5/10
- Confirmed interest in staying on AP (June 2015)

Vacancy (rec)

New Jersey
Denise Wagner (comm trap)
130 Woodbine Ocean View Road
Ocean View, New Jersey 08230
Phone: (609)624-0848
Email: wagnerfishingone@yahoo.com
Appt. Confirmed 11/18/02
- Confirmed interest in staying on AP (June 2015)

Edward K. Yates (for-hire)
33 Magnolia Road
Manahawkin, NJ 08050
Phone (day): 609.713.6918
Phone (eve): 609.597.8739
hunter.fishing@hotmail.com

Delaware
Greg Jackson (comm/hook & line)
132 Crescent Drive
Dover, DE 19904
Email: gregory.jackson.1@us.af.mil

TAUTOG ADVISORY PANEL

Bolded names await approval by the Tautog Management Board
Bolded and italicized name denotes Advisory Panel Chair July 20, 2015

Phone (day): (302)677-6846
Phone (eve): (302)734-9724
FAX: (302)677-6837
Appt. Confirmed 4/24/95
Appt. Reconfirmed 7/27/99
Appt. Reconfirmed 7/6/03
Appt Reconfirmed 6/10
- Confirmed interest in staying on AP (June 2015)

Wes Blow (rec)
56 Cedar Lane
Newport News, VA 23601
Phone (day):757-880-4269
Phone (evening): 757-880-4269
wesamy2000@cox.net

Carey Evans (for-hire)
34614 Bookhammer Landing Road
Lewes, DE 19958
Phone (day): 302/245-9776
Phone (eve): 302/947-9271
Email: CBEvansDE@aol.com
Appt. Confirmed 8/3/10

Maryland
J. David Martin (processor/comm)
10134 Waterview Drive
Ocean City, MD 21842
Phone: (443)497-3062
Email: occaptaindave@gmail.com
Appt. Confirmed 7/25/95
Appt. Reconfirmed 9/15/99
Appt. Reconfirmed 7/6/03
Appt Reconfirmed 7/07

Victor Bunting Jr. (rec)
11123 Bell Road
Whaleyville, Md 21872
Phone: (443) 614-6484
Email: Victorbunting@rocketmail.com
Appt. Confirmed 8/3/10

Virginia
Jim Dawson (comm.)
3008 Ridge Road
Chincoteague, VA 23336-1221
Phone: (757) 336-6590
Jimdawson1@verizon.net
Appt Confirmed 2/25/03
Appt Reconfirmed 2/07

ATLANTIC STATES MARINE FISHERIES COMMISSION

Advisory Panel Nomination Form

This form is designed to help nominate Advisors to the Commission's Species Advisory Panels. The information on the returned form will be provided to the Commission's relevant species management board or section. Please answer the questions in the categories (All Nominees, Commercial Fisherman, Charter/Headboat Captain, Recreational Fisherman, Dealer/Processor, or Other Interested Parties) that pertain to the nominee's experience. If the nominee fits into more than one category, answer the questions for all categories that fit the situation. **Also, please fill in the sections which pertain to All Nominees (pages 1 and 2). In addition, nominee signatures are required to verify the provided information (page 4), and Commissioner signatures are requested to verify Commissioner consensus (page 4). Please print and use a black pen.**

Form submitted by: Mark Gibson (your name) State: RI

Name of Nominee: Travis Barao

Address: 15 Gibbs St

City, State, Zip: Rumford, RI, 02916

Please provide the appropriate numbers where the nominee can be reached:

Phone (day): (401) 301-7944 Phone (evening): (401) 270-7161

FAX: _____ Email: travisbarao@gmail.com

. . . . . .

FOR ALL NOMINEES:

1. Please list, in order of preference, the Advisory Panel for which you are nominating the above person.

   1. Tautog
   2. _____
   3. _____
   4. _____

2. Has the nominee been found in violation of criminal or civil federal fishery law or regulation or convicted of any felony or crime over the last three years?

   yes _____ no X

3. Is the nominee a member of any fishermen's organizations or clubs?

   yes X no _____

   If "yes," please list them below by name.

Rhode Island Saltwater Anglers Association

Electric Boat Athletic Club Fishing Derby

4. What kinds (species) of fish and/or shellfish has the nominee fished for during the past year?

Fluke
Seabass
Tautog
Quahogs
Striped Bass
Bluefish

5. What kinds (species) of fish and/or shellfish has the nominee fished for in the past?

Fluke
Seabass
Bluefin tuna
Striped Bass
Bluefish
Quahogs

FOR COMMERCIAL FISHERMEN:

1. How many years has the nominee been the commercial fishing business? _____ years
2. Is the nominee employed only in commercial fishing? yes_____ no_____
3. What is the predominant gear type used by the nominee?_____
4. What is the predominant geographic area fished by the nominee (i.e., inshore, offshore)?_____

FOR CHARTER/HEADBOAT CAPTAINS:

1. How long has the nominee been employed in the charter/headboat business? _____ years
2. Is the nominee employed only in the charter/headboat industry? yes _____ no_____

   If "no," please list other type(s)of business(es) and/occupation(s):_____

3. How many years has the nominee lived in the home port community? _____ years

   If less than five years, please indicate the nominee's previous home port community.

FOR RECREATIONAL FISHERMEN:

1. How long has the nominee engaged in recreational fishing? 15 years

2. Is the nominee working, or has the nominee ever worked in any area related to the fishing industry? yes X no _____

   If "yes," please explain.

Travis worked for Integrated Statistics in Woods Hole, MA as a contractor for NOAA-NMFS. He worked with Dr. Mike Jech on reseach related to imaging sonar for the purpose of estimating size and population counts of Atlantic herring. Research focussed around the use of dual frequency identification sonar (DIDSON).

FOR SEAFOOD PROCESSORS & DEALERS:

1. How long has the nominee been employed in the business of seafood processing/dealing? _____ years

2. Is the nominee employed only in the business of seafood processing/dealing?

   yes _____ no _____ If "no," please list other type(s) of business(es) and/or occupation(s):

   _____

   _____

   _____

3. How many years has the nominee lived in the home port community? _____ years

   If less than five years, please indicate the nominee's previous home port community.

   _____

FOR OTHER INTERESTED PARTIES:

1. How long has the nominee been interested in fishing and/or fisheries management? _____ years

2. Is the nominee employed in the fishing business or the field of fisheries management?
   yes _____ no _____

   If "no," please list other type(s) of business(es) and/or occupation(s):

   _____

   _____

   _____

FOR ALL NOMINEES:

In the space provided below, please provide the Commission with any additional information which you feel would assist us in making choosing new Advisors. You may use as many pages as needed.

Travis has spent his entire life in Rhode Island and has spent countless hours on the water enjoying fishing, clamming and other water sports. He has the utmost respect for Mother Nature and the ocean. Travis attended the University of Rhode Island and received a Bachelor's degree in ocean engineering with a minor in oceanography in 2010. He is now pursuing a Master's degree in ocean engineering, still at URI. Travis is currently working at Electric Boat in North Kingstown, RI after a one year contractor position at Woods Hole. He is a member of the Rhode Island Saltwater Anglers Association and has been on the board of directors since January, 2014.

Nominee Signature: Travis Barao Date:

Name: Travis Barao
(please print)

COMMISSIONERS SIGN-OFF (not required for non-traditional stakeholders)

(RI)

State Director

State Legislator

Governor's Appointee

ATLANTIC STATES MARINE FISHERIES COMMISSION

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Form submitted by: Russ Allen (your name) State: NJ

Name of Nominee: EDWARD K YATES

Address: 33 MAGNOLIA RD

City, State, Zip: MANAHAWKIN NJ 08050

Please provide the appropriate numbers where the nominee can be reached:

Phone (day): 609-713-6918 Phone (evening): SAME/OR 609-597-8739

FAX: _____ Email: _____

FOR ALL NOMINEES:

1. Please list, in order of preference, the Advisory Panel for which you are nominating the above person.
   1. TOG
   2. _____
   3. _____
   4. _____
2. Has the nominee been found in violation of criminal or civil federal fishery law or regulation or convicted of any felony or crime over the last three years?

   yes _____ no X
3. Is the nominee a member of any fishermen's organizations or clubs?

   yes X no _____

   If "yes," please list them below by name.

UNITED BOATMAN OF NJ | PVA

NACO

NPBOA

4. What kinds (species) of fish and/or shellfish has the nominee fished for during the past year?

FLUKE | TOG

SEA BASS | BLUE FISH

SCUP | STRIPED BASS

5. What kinds (species) of fish and/or shellfish has the nominee fished for in the past?

FOR COMMERCIAL FISHERMEN:

1. How many years has the nominee been the commercial fishing business? _____ years
2. Is the nominee employed only in commercial fishing? yes_____ no_____
3. What is the predominant gear type used by the nominee?_____
4. What is the predominant geographic area fished by the nominee (i.e., inshore, offshore)?_____

FOR CHARTER/HEADBOAT CAPTAINS:

1. How long has the nominee been employed in the charter/headboat business? 38 years
2. Is the nominee employed only in the charter/headboat industry? yes X no_____

   If "no," please list other type(s)of business(es) and/occupation(s):_____

3. How many years has the nominee lived in the home port community? 38 years

   If less than five years, please indicate the nominee's previous home port community.

FOR RECREATIONAL FISHERMEN:

1. How long has the nominee engaged in recreational fishing? _____ years

2. Is the nominee working, or has the nominee ever worked in any area related to the fishing industry? yes _____ no _____

   If "yes," please explain.

_____

_____

_____

FOR SEAFOOD PROCESSORS & DEALERS:

1. How long has the nominee been employed in the business of seafood processing/dealing? _____years

2. Is the nominee employed only in the business of seafood processing/dealing?

   yes _____ no _____ If " no," please list other type(s) of business(es) and/or occupation(s):

_____ _____

_____ _____

_____ _____

3. How many years has the nominee lived in the home port community? _____ years

   If less than five years, please indicate the nominee's previous home port community.

_____ _____

FOR OTHER INTERESTED PARTIES:

1. How long has the nominee been interested in fishing and/or fisheries management? _____ years

2. Is the nominee employed in the fishing business or the field of fisheries management? yes X no _____

   If "no," please list other type(s) of business(es) and/or occupation(s):

_____ _____

_____ _____

_____ _____

FOR ALL NOMINEES:

In the space provided below, please provide the Commission with any additional information which you feel would assist us in making choosing new Advisors. You may use as many pages as needed.

NJ SEABASS FLUKE STRIPBASS ADVISOR.

Nominee Signature: Edward K Yates Date: 14 JUL 15

Name: EDWARD K YATES
(please print)

COMMISSIONERS SIGN-OFF (not required for non-traditional stakeholders)

State Director

State Legislator

Governor's Appointee

ATLANTIC STATES MARINE FISHERIES COMMISSION

Advisory Panel Nomination Form

This form is designed to help nominate Advisors to the Commission's Species Advisory Panels. The information on the returned form will be provided to the Commission's relevant species management board or section. Please answer the questions in the categories (All Nominees, Commercial Fisherman, Charter/Headboat Captain, Recreational Fisherman, Dealer/Processor, or Other Interested Parties) that pertain to the nominee's experience. If the nominee fits into more than one category, answer the questions for all categories that fit the situation. **Also, please fill in the sections which pertain to All Nominees (pages 1 and 2). In addition, nominee signatures are required to verify the provided information (page 5), and Commissioner signatures are requested to verify Commissioner consensus (page 5).**

Form submitted by:Click here to enter text. State:Virginia

Name of Nominee: Wes Blow

Address: 56 Cedar Ln

City Newport News, State Virginia 23601

Please provide the appropriate numbers where the nominee can be reached:

Phone (day):757-880-4269 Phone (evening): 757-880-4269

FAX:Click here to enter text. Email: wesamy2000@cox.net

FOR ALL NOMINEES:

1. Please list, in order of preference, the Advisory Panel for which you are nominating the above person.
    1. Tautog
    2. Click here to enter text.
    3. Click here to enter text.
    4. Click here to enter text.
2. Has the nominee been found in violation of criminal or civil federal fishery law or regulation or convicted of any felony or crime over the last three years?

    ☐yes ☒no
3. Is the nominee a member of any fishermen's organizations or clubs?

    ☒yes ☐no

If “yes,” please list them below by name.

Peninsula Saltwater Sport Fisherman’s Association

4. What kinds (species) of fish and/or shellfish has the nominee fished for during the past year?

Tautog, Black Seabass, Triggerfish, Blueline Tilefish, Golden Tilefish, Sand Tiger Sharks, Yellowfin Tuna,White Marlin, Striped Bass, Flounder, Red and Black Drum, Cobia, Sheepshead, Speckled Trout, Bluefish, Croaker, Spot

5. What kinds (species) of fish and/or shellfish has the nominee fished for in the past?

Bluefish, Sailfish, False Albacore, Red Grouper, Gag Grouper, Wahoo, Dolphin, Amberjack, Tautog, Black Seabass, Triggerfish, Blueline Tilefish, Golden Tilefish, Sand Tiger Sharks, Yellowfin Tuna,White Marlin, Striped Bass, Flounder, Red and Black Drum, Cobia, Sheepshead, Speckled Trout, Croaker, Spot

FOR COMMERCIAL FISHERMEN:

1. How many years has the nominee been the commercial fishing business? Click here to enter text. years

2. Is the nominee employed only in commercial fishing? ☐yes ☐no

3. What is the predominant gear type used by the nominee?Click here to enter text.

4. What is the predominant geographic area fished by the nominee (i.e., inshore, offshore)?

Click here to enter text.

FOR CHARTER/HEADBOAT CAPTAINS:

1. How long has the nominee been employed in the charter/headboat business? Click here to enter text. years

2. Is the nominee employed only in the charter/headboat industry?☐ yes ☐ no

If “no,” please list other type(s)of business(es) and/occupation(s):Click here to enter text.

3. How many years has the nominee lived in the home port community?Click here to enter text. years

If less than five years, please indicate the nominee's previous home port community.

Click here to enter text.

FOR RECREATIONAL FISHERMEN:

1. How long has the nominee engaged in recreational fishing? 40 years

2. Is the nominee working, or has the nominee ever worked in any area related to the fishing industry?☐yes ☒no

If "yes," please explain.

Click here to enter text.

FOR SEAFOOD PROCESSORS & DEALERS:

1. How long has the nominee been employed in the business of seafood processing/dealing? Click here to enter text.years

2. Is the nominee employed only in the business of seafood processing/dealing?

☐yes ☐ no If "no," please list other type(s) of business(es) and/or occupation(s):

Click here to enter text.

3. How many years has the nominee lived in the home port community?Click here to enter.years

If less than five years, please indicate the nominee's previous home port community.

Click here to enter text.

FOR OTHER INTERESTED PARTIES:

1. How long has the nominee been interested in fishing and/or fisheries management?Click here to enter text. years

2. Is the nominee employed in the fishing business or the field of fisheries management? ☐yes ☐no

If “no,” please list other type(s) of business(es) and/or occupation(s):
Click here to enter text.

FOR ALL NOMINEES:

In the space provided below, please provide the Commission with any additional information which you feel would assist us in making choosing new Advisors. You may use as many pages as needed.

I developed a love of fishing as a child and have fished most of my life. Over the last ten years, I have become more passionate about it and continue to increase my knowledge. I am very interested being a part of protecting fisheries so they are sustainable for future generations.

Nominee Signature: Wes Blow Date: 7/8/15

Name:Wes Blow

COMMISSIONERS SIGN-OFF (not required for non-traditional stakeholders)

Click here to enter text.
Proxy for John M.R. Bull

Robert L O'Reilly

Click here to enter text.
Governor’s Appointee

Click here to enter text.

State Legislator

Atlantic States Marine Fisheries Commission

Atlantic Striped Bass Management Board

August 5, 2015
1:15 – 2:45 p.m.
Alexandria, Virginia

Draft Agenda

The times listed are approximate; the order in which these items will be taken is subject to change; other items may be added as necessary.

1. Welcome/Call to Order (*D. Grout)* 1:15 p.m.

2. Board Consent 1:15 p.m.
   - Approval of Agenda
   - Approval of Proceedings from May 2015

3. Public Comment 1:20 p.m.

4. Technical Committee Reports (*C. Godwin*) 1:30 p.m.
   - Fleet-specific Fishing Mortality Reference Points
   - Estimated Harvest Reduction in 2015 from Implementation of Addendum IV

5. Consider Approval of 2015 FMP Review and State Compliance (*M. Appelman*) 2:35 p.m.
   Action

6. Other Business/Adjourn 2:45 p.m.

The meeting will be held at The Westin Alexandria, 400 Courthouse Square, Alexandria, Virginia; 703.253.8600

MEETING OVERVIEW

Atlantic Striped Bass Management Board Meeting
Wednesday, August 5, 2015
1:15 – 2:45 p.m.
Alexandria, Virginia

Chair: Doug Grout (NH) Assumed Chairmanship: 02/14	Technical Committee Chair: Charlton Godwin (NC)	Law Enforcement Committee Rep: Kurt Blanchard (RI)
Vice Chair: Jim Gilmore (NY)	Advisory Panel Chair: Kelly Place (VA)	Previous Board Meeting: May 5, 2015
Voting Members: ME, NH, MA, RI, CT, NY, NJ, PA, DE, MD, DC, PRFC, VA, NC, NMFS, USFWS (16 votes)		

2. Board Consent

- Approval of Agenda
- Approval of Proceedings from May 2015

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-in 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 Chair will not allow additional public comment on an issue. 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 Reports (1:30 – 2:35 p.m.)

Background

- In May 2015, the Board tasked the Technical Committee to develop fishing mortality (F) reference points for the ocean and discard fleet consistent with the Chesapeake Bay F reference points.
- The Technical Committee compiled a memo that details fleet-specific fishing mortality reference points and the methodology for projecting management-level changes to reach F target (**Briefing Materials)**.
- In February 2015, upon approval of final state regulations per Addendum IV, the Board tasked the Technical Committee to estimate the reduction in harvest for the 2015 fishing season using the final state regulations.
- The Technical Committee compiled a memo that details the harvest reduction estimate for 2015 (**Briefing Materials)**.

Presentations

- Technical Committee Reports by C. Godwin

5. Consider 2015 FMP Review and State Compliance (2:35 – 2:45 p.m.)

Background

- State Compliance Reports are due annually on June 15 (**Briefing Materials)**
- The Plan Review Team reviewed each state report and drafted the 2015 FMP Review (**Supplemental Materials**)

Presentations • Overview of the 2015 Fishery Management Plan Review by M. Appelman
Board Actions for Consideration • Accept the 2015 Fishery Management Plan Review

7. Other Business/Adjourn

DRAFT PROCEEDINGS OF THE

ATLANTIC STATES MARINE FISHERIES COMMISSION

ATLANTIC STRIPED BASS MANAGEMENT BOARD

The Westin Alexandria
Alexandria, Virginia
May 5, 2015

These minutes are draft and subject to approval by the Atlantic Striped Bass Management Board. The Board will review the minutes during its next meeting.

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Draft Proceedings of the Atlantic Striped Bass Management Board Meeting May 2015

ATTENDANCE

Board Members

Terry Stockwell, ME, proxy for P. Keliher (AA)
Steve Train, ME (GA)
Sen. Brian Langley, ME (LA)
Sen. David Watters, NH (LA)
G. Ritchie White, NH (GA)
Doug Grout, NH (AA)
Sen. David Watters, NH (LA)
Dennis Abbott, NH, Legislative proxy
Jocelyn Cary, MA, proxy for Rep. Peake (LA)
Bill Adler, MA (GA)
Bob Ballou, RI (AA)
Mark Gibson, RI, Administrative proxy
David Borden, RI (GA)
Eric Reid, RI, proxy for Sen. Sosnowski (LA)
Rep. Craig Miner, CT (LA)
David Simpson, CT (AA)
Lance Stewart, CT (GA)
James Gilmore, NY (AA)
Emerson Hasbrouck, NY (GA)
Paul Risi, NY, proxy for Sen. Boyle (LA)
Russ Allen, NJ, proxy for D. Chanda (AA)
Tom Fote, NJ (GA)
Adam Nowalsky, NJ, proxy for Asm. Andrzejczak (LA)
Leroy Young, PA, proxy for J. Arway (AA)
Loren Lustig, PA (GA)
Roy Miller, DE (GA)
David Saveikis, DE (AA)
John Clark, DE, Administrative proxy
Craig Pugh, DE, proxy for Rep. Carson (LA)
Del. Dana Stein, MD (LA)
Tom O'Connell, MD (AA)
Bill Goldsborough, MD (GA)
John Bull, VA (AA)
Rob O'Reilly, VA, Administrative proxy
Michelle Duval, NC, Administrative proxy
Martin Gary, PRFC
Steve Meyers, NMFS
Mike Millard, USFWS
Bryan King, DC

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

Ex-Officio Members

Charlton Godwin, Technical Committee Chair
Kelly Place, Advisory Panel Chair

Staff

Robert Beal
Toni Kerns
Mike Waine
Katie Drew
Max Appelman

Guests

John Bullard, NMFS
Thomas Farrugia, US House Cmte. on Natural Res.
Dan McKiernan, MA DMF
Mike Armstrong, MA DMF
Mike Luisi, MD DNR
Alexei Sharov, MD DNR
Jason McNamee, RI DEM
Jack Travelstead, CCA
David Sikorski, CCA
Emily Franke, Chesapeake Research Consortium
Raymond Kane, CHOIR
Brandon Muffley, NJ DFW
Ed O'Brien, MCBA
Marin Hawk, MSC
Meghan Lapp, Seafreeze, Ltd.
Raymond Kane, CHOIR
Justin LeBlanc, NCFA
Christine Hopper, OC
Amy Price, OC
Patrick Paquette, Stripers Forever, MA

The Atlantic Striped Bass 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 2:45 o'clock p.m. by Chairman Douglas E. Grout.

CALL TO ORDER

CHAIRMAN DOUGLAS E. GROUT: Good afternoon, everybody. My name is Doug Grout; I'm the Chair of the Striped Bass Management Board. We have about an hour and a half allotted. I'm hoping we can make up some of the time that was lost via our extensive discussions on menhaden.

APPROVAL OF AGENDA

CHAIRMAN GROUT: First of all on the agenda, I have approval of the agenda.

Are there any changes or additions to the agenda? Seeing none; is there any objection to approving the agenda as written? Seeing none; we will take it as approved.

APPROVAL OF PROCEEDINGS

CHAIRMAN GROUT: We also in our briefing packets have the proceedings of our February 2015 meeting. Does anybody have any edits or changes to the meeting minutes? Seeing none; is there any objection to approving the proceedings as written? I will take that as unanimous consent.

PUBLIC COMMENT

CHAIRMAN GROUT: Item Number 3 is public comment for items that are not on the agenda. We don't have anybody signed up, but I just want to check with public. Is there anybody that has public comment for things that are not on this agenda?

TECHNICAL COMMITTEE REPORT

PRODUCER AREA REFERENCE POINTS

CHAIRMAN GROUT: Okay, Item 4 is the technical committee report from Charlton, our Technical Committee Chair. He is going to be talking about our progress report on producer area reference points.

MR. CHARLTON H. GODWIN: The first presentation we're going to go through is the progress on fishing mortality for the reference points for the Chesapeake Bay, Delaware and the Hudson River. Just as an update, January 2015 the technical committee reviewed options for developing fishing mortality reference points for the Chesapeake Bay and recommended a suite of options for further analysis.

At our March 2015 meeting we reviewed these analysis for Chesapeake Bay plus discussed the feasibility of developing fishing mortality reference points for the Delaware Bay and Hudson River spawning stocks. Just as a reminder, due to minimal mixing with the coastal migratory stock, the Albemarle/Roanoke stock has had fishing mortality and spawning stock biomass reference points for a number of years.

We had three basic general options that we have looked at; and we've kind of gone over these some for developing these reference points; some suite of options or the yield-per-recruit based models. The other option was a tag-based fishing mortality reference point; and then the third one was the statistical catch-at-age-based model, so that is just using our current SCAA Model to pull that reference point out.

Just going over the yield-per-recruit models, the analyses resulted in relatively stable estimates of F over time fishing mortality, which leads to the harvest control model which is used to set the Chesapeake Bay quota being driven by exploitable biomass, which in turn has basically

resulted in when we back-calculated what the quotas would have been using this method; there was an extreme – you know, a lot of interannual variance between the quota.

It wasn't a very stable quota. This is not really desirable to the industry or to management. This method also creates a disconnect between the methods used to assess the Chesapeake Bay and the coastal fleet as far as the fishing mortality; so it is outside the methodology used in the statistical catch-at-age model. That was kind of a drawback for this model.

The tag-based reference points; these used tag-based estimates of fishing mortality for Chesapeake Bay and compare to an empirical target. We looked at several different methods and different analyses for this. The technical committee explored looking at the time series of F in the Chesapeake Bay to the Maryland Juvenile Index lagged by several years. That produced a fairly weak relationship.

The approach also suggested no negative impact of fishing mortality on juvenile recruitment. Back-calculating of the quotas with this method also led to significant interannual variation in the quota. This method is also quite a bit different than the statistical catch-at-age model, and it would lead to that disconnect of comparing the F in the Bay to the statistical catch-at-age model looking at the coastal F.

The third option was the statistical catch-at-age-based fishing mortality reference point. The idea is to use the Chesapeake Bay Fleet component from the coast-wide fishing mortality reference point from this model as a target and threshold, if desired. We would use these estimates of the Chesapeake Bay Fleet specific fishing mortality, which is something that is already produced in the model, to assess the overfishing status and this would allow that to be used to set the quota using the harvest control model.

The analysis showed the ratio of the Chesapeake Bay Fleet F and coast-wide F has been fairly consistent over the time. The recruitment and removals have been fairly stable over the last ten or fifteen years. The analysis that we looked at using this methodology also showed that the Chesapeake Bay F has declined slightly in recent years compared to the coastal F.

One of the advantages of this, the Chesapeake Bay Fleet fishing mortality in the SCAA Model represents the impact of the Chesapeake Bay on the entire population and not just the Chesapeake Bay stock. That is something to keep in mind. Maintaining the Chesapeake Bay Fleet fishing mortality at the target should ensure the impact of the Chesapeake Bay Fleet on the entire population is sustainable.

At the meeting we did come to a consensus for the methodology to use. We recommend using the statistical catch-at-age option. As another couple of points, the fishing mortality estimates from this are based on total harvest and age structure specific to the Chesapeake Bay. The Chesapeake Bay Fleet fishing mortality would be directly related to the coastal fleet F, which provides consistent management matrices to compare these to. The risk of overfishing is relatively low because the Chesapeake Bay F is tied to the coast-wide F, which is generally thought to be conservative.

What that means is we've got the F set for the coast-wide F equals to a fairly high spawning stock biomass; so it is generally thought to be a conservative F. Some other things to keep in mind if moving forward with this; this would also require a recalculation of the coast-wide fishing mortality reference.

If you separate the Bay F out from the coastal F, then that coastal F will have to be recalculated accordingly. In order to use this in the Harvest Control Model to set the Chesapeake Bay quota, it would require annual updates to that model to recalculate the annual quota. That's it for the Chesapeake Bay.

Moving on to the other charge that the management board gave at the last meeting was to look at the possibility of developing reference points for the Delaware Bay as well as the Hudson River. The technical committee reviewed tagging data for the Delaware Bay. This was a fairly rough review of this; but the data revealed 32 percent of tagged fish are recaptured within Delaware Bay; 23 percent recaptured with Chesapeake Bay.

Overall the technical committee thinks it is a viable option to develop a Delaware Bay fishing mortality reference point using the same methodology; so we would add the Delaware Bay Fleet to the statistical catch-at-age model and then use the same methodology as the Chesapeake Bay F with the SCAA Model.

Moving to the Hudson River, the technical committee also reviewed tagging data for the Hudson River. The data revealed that 70 percent of tagged fish are recaptured on the coast or at least in Long Island Sound. Fish appear to have a shorter residency time within the Hudson River compared to fish in the Delaware.

It would be very difficult to set a boundary line to demarcate the Long Island Sound and New York Bight in order to create a fleet within the statistical catch at age as far as separating out catch. The technical committee felt at this time it is not a viable option to calculate a separate fishing mortality reference point for the Hudson River within the same methodology framework that are talking about for the Delaware Bay and Chesapeake Bay within that statistical catch-at-age model.

So just a couple of slide on just general conclusions for each one of these areas; the technical committee concluded it is a viable option to develop fishing mortality reference points for the Chesapeake Bay using the statistical catch-at-age approach. Because the Chesapeake Bay is an existing fleet within the model, it was felt that it would be within the scope of an assessment update to develop this reference point and the coastal fleet reference point.

For the Delaware Bay; the technical committee also concluded that it would be a viable option to develop an F reference point for the Delaware Bay using this approach. However, because the Delaware Bay, that harvest in there is currently contained as part of the coastal fleet within the model, it would be outside the scope of an assessment update to develop the Delaware Bay reference points at this using this methodology.

The technical committee can continue to explore incorporating a separate Delaware Bay Fleet, much like what is in the model now. We'll just add a Delaware Bay Fleet in the next benchmark assessment; and that should allow the development of the Delaware Bay fishing referent point. For the Hudson River reference point, the technical committee concluded it is currently not possible to derive a fishing reference point for the Hudson River using the statistical catch-at-age methodology. Fish spend very little time within the Hudson. Most exploitation occurs in the ocean where they are part of the mixed coast-wide stock; and geographically there is just no easy way to demarcate Long Island Sound and the New York Bight. With that, I'll take any questions.

MR. JOHN CLARK: Thank you for the presentation, Charlton. I just had a question about some of the language you had on the slide and in the memo about the Delaware Bay reference points. You talked about exploring and incorporating separate Delaware Bay reference points in preparation for the next benchmark. Is the idea here to have a method ready to go for the next benchmark assessment to work Delaware Bay reference points in or are we still going to be exploring this when the benchmark is actually underway, the next assessment?

MR. GODWIN: I believe the idea at this time is to continue looking at incorporating the data now; and at the next benchmark it would be

able to incorporate into that benchmark process.

MR. CLARK: So you're confident that it would be possible to incorporate this into the next benchmark assessment?

MR. GODWIN: Yes, sir; we believe so.

MR. DAVID V.D. BORDEN: Mr. Chairman, I'm just kind of curious. The requirement for annual assessment updates for the Chesapeake; how much of a burden is that going to place on the staff and the technical committee?

MR. GODWIN: Well, currently we are providing data each year through our compliance reports; so it would be a matter of having to rerun an assessment update each time. As you remember, we used to run an annual assessment update every year. Of course, it is going to take that amount of staff time. I mean, it is fairly time-consuming, especially if the tagging model gets updated as well. I guess the management board can decide on staff time for that.

CHAIRMAN GROUT: I have a question along those lines. Would it be possible to have a turn-of-the-crank assessment to set these and then set the reference points for, say, two years or for a period of time? It wouldn't be as precise as doing it every year; but something like that where it wouldn't be – it would be almost like setting specifications except for the reference points.

MR. GODWIN: I think that it would be certainly possible to set during the – I think currently the assessment timeline is do a benchmark and then every two years do an update. I don't know that it would be feasible using that particular harvest control model, but there certainly are ways that they currently do that I think with some other species where they set the quota for a couple of years at the time and go to through two years to that update. It would be a slight change from the way that the Bay has been estimated with the harvest control model; but it is something that is used on other species.

MR. THOMAS O'CONNELL: Thanks for the technical committee's work on this. As you know, it has been a priority of the Bay jurisdictions and this board to get to this point. I appreciate the time the technical committee has devoted given other workload issues. Before we conclude this agenda item, I would like an opportunity to maybe put a motion on the table. I'm trying to get a sense of – obviously, there is an interest to move forward with Chesapeake Bay reference points.

It was actually the motion made by this board in October of 2013 to initiate Addendum IV to establish reference points for both the Chesapeake Bay and the coast. There was also an action plan for 2015. I'm trying to get a sense of the pathway forward. Obviously, if we proceed with Chesapeake Bay reference points, it suggests that we have to back and look at what the coastal reference point means; and depending on how those move up or down, it could result in having to modify management.

One question I have for Charlton is how long would it take to develop those separate reference points for the coast and the bay and trying to think about that pathway versus asking the board to proceed with an interim Chesapeake Bay reference point and wait for establishing the coastal reference point at a later point in time? I'm trying to get a sense of that pathway forward.

MR. GODWIN: To kind of separate out a reference point for the Chesapeake Bay using the statistical catch-at-age model and then likewise have a coastal reference point; that could be done at the upcoming assessment update that is planned for this summer. That would be fairly straightforward.

MR. O'CONNELL: So that could be reported out in August, when you say summer?

MR. GODWIN: No, sorry, the data for the assessment update I believe is scheduled for this year with data through 2014. That data is due to ASMFC by the various states – June 15th I believe is the deadline. In years past that assessment update has been completed and provided to the board at their October or November winter meeting.

DR. KATIE DREW: But we could provide the reference points sooner than that. It is an easy calculation.

CHAIRMAN GROUT: I overheard another comment.

MR. GODWIN: Dr. Drew says we could provide the reference points even earlier than that for the calculation; before that board meeting in October.

MR. O'CONNELL: Is it possible to have it at the August meeting? Obviously, there is an interest if we move forward to have the option to make changes for 2016; so having it for the August meeting is pretty critical. I'm trying to assess if that's possible or not.

MR. GODWIN: The reference points could be provided, but the projections are a little more tedious and would take more time.

MR. O'CONNELL: And just one follow-up question. I don't know if you'll be able to answer this question or not; but it has been going through my mind that if the board was supportive of going forward with the Chesapeake Bay reference points but leaving the coastal management in place, do you have a sense of the level of risk to the resource or achieving the fishing mortality target that we are working towards through Addendum IV?

MR. GODWIN: It is possible that we could have those calculations done at the August meeting. We do not know now exactly what that risk would be; but it is possible we could do those calculations and have them ready for the August meeting.

MR. MARK GIBSON: Charlton, you said that the Chesapeake Bay Fleet accounts for the entire Chesapeake Bay fishery; whether it is in Maryland and Virginia jurisdictions, resident fish, migratory, trophies. Whatever is going on down there; that is where that fleet is constituted, correct? Okay, you also said that in the first approach you tried, the calculations gave widely varying quotas.

I'm thinking, well, that is because you're dealing with a serious of recruitment events, and that is the available spawning stock biomass for the resident or the non-migratory fish? I'm trying to understand the difference between the Chesapeake Bay Fleet in the SCAA Model, and that first approach you tried to gig the widely varying estimates.

DR. DREW: You're correct I think in that basically they were trying to input an F into the model whereas before the harvest control model was more focused on maintaining a constant F; so it was less about inputting a specific F than more about inputting sort of a change in F, where that change in F was minimal to keep you close to the target.

So that resulted in a more stable quota, which I think is sort of the approach that the statistical catch at age combined with the harvest control model would do; that you've measured the F in the fleet; and once you were presumably at your target, we'd verify that through the statistical catch at age and then minimize the change in F to give you a constant F over time, which generally resulted in a more stable quota.

MR. GIBSON: Follow-up, Mr. Chairman. Yes; I mean I would expect in the HCM, given that recruitment strength can vary quite a bit, then the exploitable biomass is going to vary quite a bit. My concern is that there must be – under the approach the technical committee is offering, there seems to be there must be, for lack of a better word, some buffering going on somewhere; so that in reality there is varying biomass to be exploited but the quotas are not going to vary that much means the fish are going to be taken from somewhere else.

I just want to make sure that when you come back – you know, if we go down the road Tom is suggesting; that you be ready to talk to us about that, as to how that is going to happen in terms of risk not only to the Chesapeake Bay Fleet but coast-wide stock. It seems like the biomass has to add up somewhere. It has got to come from somewhere or go somewhere.

MR. ROB O'REILLY: I concur with Mark Gibson about the HCM and exploitable stock biomass; but the variability – I think the last time around that we had the harvest control model, output was 2013 for 2014; and I think that's where 14 percent was fairly substantial. Most of the other times the variability even with the Harvest Control Model was not substantial as that.

But I did want to ask about tagging; because I'm not quite sure what role tagging will play. This is sort of an open question that it seems as if we have the SCAA as the tool to go forward for Chesapeake Bay reference points, we have our tagging programs. I learned the hard way several months ago that because we have commercial discard estimates, the tagging programs are important there.

As you're going to hear a little bit later, there has been some modifications in Virginia in the tagging program; but does the technical committee and the tagging subcommittee, perhaps, still think that the tag-based estimates are going to useful, especially maybe to corroborate, if possible, what the SCAA says about these approaches and these annual updates.

MR. GODWIN: Well, I think, Rob, as you did mention, we are going to look at some changes to the tagging program in Virginia that could potentially provide greater data about migration at various sizes, maybe some of the smaller sizes. The tagging models, currently the Z's, the total mortalities from the tagging models are comparable with the statistical catch at age.

The disconnect with the tagging models is the mortality. It is much greater than what is calculated in the statistical catch at age, which makes the F a lot lower. There are some issues to work out with that part of the tagging, but I think overall the tagging does still provide useful information as to overall mortality and I think maybe provide some useful information. Especially moving forward if eventually we want to try to get to sex-specific, area-specific models, I think that will be useful.

MR. GIBSON: Mr. Chairman, I just have two other points. Again, back to the workload issue; it is not clear to me that in our priorities or in our board plan that we could turn this around on an annual basis; so I would leave that to you and others to think about whether that is feasible or not. I know what kind of work has to be done in the weeds and the boots on the ground to age striped bass and compute abundance indices and do all those things that need to be done. I'm concerned about that.

The other question I wanted to ask is on the proposal for the Delaware Bay, is it true that as you add more and more fleets to this model you start to dissipate the information content in it; and as we start to have so many pieces, they really don't fit together anymore versus with the model we right now, which is working pretty well? Do you have concerns about that as you continue to break out things on a finer and finer scale, it is going to start to break apart?

DR. DREW: That is definitely an excellent question; and I think it depends on sort of the quality of the data that we have. I think you can imagine a situation in which if we have excellent quality data from the Delaware Bay and they're doing something slightly different from the rest of the coast, pulling those two out separately is going to make the model have more room to be more specific and not have to average over those two different trends.

But, if the Delaware Bay data aren't as good; for example, low sample sizes, if we have a hard time distinguishing what is actually coming from the bay versus what is coming from the coast, those sorts of things, which we haven't really looked into and I think which would be part of our preparation for the benchmark, to kind of evaluate the quality of the data to support a Delaware Bay Fleet. It is true that if the data quality are poor; that is going to reduce the performance of the model and add more uncertainty into the model.

MR. O'CONNELL: I'm trying to wrap my head around the pathway forward here, but we've made this a priority for almost two years now. I'm tempted to put a motion on the table. **I guess I will put a motion on the table for discussion; move to initiate development of an addendum to establish a Chesapeake Bay fishing mortality reference point consistent with the technical committee's Option 3, statistical catch-at-age-based reference point, and the management options to achieve this reference point.**

CHAIRMAN GROUT: Do we have a second? Rob O'Reilly. Discussion on the motion? Tom, you get first crack.

MR. O'CONNELL: I understand that this board is probably looking for some more information to be gathered by the technical committee and PDT prior to the August meeting; but I think from our perspective we've waited a while to get this information. I think it would be beneficial to get the process started. I'm open to the conversation of this motion just to hear what other board members have to say about that.

MR. GIBSON: I appreciate Tom's effort to move this along. My concern is that I don't know the companion piece. I'm really not understanding what needs to be done to the coastal reference point in order to sync up with this. That is what I was understanding is it said in the report that there would have to be recomputation done. What does that involve and how do you make sure they balance together? The concern is about doing this in a piecemeal fashion.

DR. DREW: Essentially once we have calculated the Chesapeake Bay reference points; the coastal reference points and the discard fleet reference points are already implied. They're already set. Because we are not changing the allocation of fishing mortality between any of these components; we're just relying on what the allocation has been in the most recent time period for these different fleets to allocate how much F of this total F that the stock can sustain that will give us our target; how much of that can go to the Chesapeake Bay, how much of that can go to the coastal fleet, how much of that is taken up by the discard fleet.

Those calculations, as I said, to establish the target would be minimal. The longer I think more complex question is then how do you calculate the reductions necessary to get to that target with multiple different fleets taking multiple different reductions? I think it is more complex than the projection model currently is set up; and it is getting closer to issues of allocation in terms of – because they all feeding on the same stock; so taking catch from one place is going to change the F that the other stock sees even if you don't change that F because fish are either added to the population or fish stay in the population.

MR. THOMAS FOTE: I guess this doesn't get me where I want to really be where I can actually assign how much the Delaware River, how much to the Hudson River and how much to the Chesapeake Bay stocks are actually contributing to them. That is the real problem that I've been looking at for 25 years is especially since the increase in the Delaware River stock – when we first did this plan, it was very small and now it has become a major part of it and yet we're not allocating in the mortality.

It also would give us a better idea of what stock is in trouble and what stock is being different. If we know that the Delaware stock is actually going up and the Hudson River is remaining the

same, then what is the problem with the Chesapeake Bay stock? And because they have different migratory patterns than we know the Hudson River; I don't know if the tagging studies have proved exactly how – I know there is a lot of crossing of the Delaware stock, but I don't know exactly how they migrated along the coast much differently than the Chesapeake or the Hudson River stock.

Those are the things I'm looking at and basically coming to some kind of conclusion so when we do the next striped bass go-around, we look about if we're going to target where the problem is; that is what we should be doing. If it is concerns that a certain fishery that is causing maybe the young of the year in that fishery for the first year, but then they don't survive past the first and second year in that particular locale, then we need to address those problems. That is what I was looking for when I basically brought this up getting back to the producing area status for all three areas that we know we don't have under the present plan.

DR. MICHELLE DUVAL: Mr. Chairman, I'm with Mark Gibson a little bit in that I'm having difficulty wrapping my head around this somewhat. I support the bay jurisdiction's efforts to try to get to some satisfactory resolution. The calculation of bay reference points will not change the reference points we've already established for the coastal fleet, if I understand what Katie has said?

DR. DREW: I wish he had come up with a better name for this because this is the confusion. What the technical committee provided through the stock assessment was a set of reference points for the coast-wide meta-population of striped bass; so the entire stock of what we consider the striped bass stock that we manage, which we know is made up of multiple smaller stocks; the Chesapeake Bay stock, the Hudson River stock, the Delaware stock.

The North Carolina stock is separate and is not included in that; but you have this meta-population and we provided reference points that would ensure that all of these different fisheries operating on this meta-population would be sustainable in the long run. What the Chesapeake Bay is proposing is to start splitting those reference points out by fleet; so we have the Chesapeake Bay Fleet and we have the fleet that operates in the non-Chesapeake Bay areas.

Again, to Tom Fote's point, which is absolutely correct, is these are not reflecting stock-specific reference points the way we consider a biological stock unit. They are proxies for the behavior of fleets because we do not have enough information to model these stocks separately. We're only modeling a single meta-population of striped bass on the Atlantic Coast.

If we go to the Chesapeake Bay reference points; that automatically implies a reference point level for the coastal fisheries. So for non-Chesapeake Bay fisheries, they could be held to another set of reference points that would divvy up that F basically between the Chesapeake Bay and the coast and the discards if we're getting down to kind of that specific of a level so that all three fleets would combine to reflect this larger coast-wide reference point that we already recommended; but it would imply a different set of reference points for the coastal fleets compared to the overall population reference points that we recommended through the stock assessment.

DR. DUVAL: Okay, that clarifies things because it wasn't exactly clear to me that – I mean, I understand it is not just like a simple subtraction issue and that we're modeling fleets; we're not modeling different subpopulations or anything like that. Then I guess I share of the concerns about annual updates and annual projections and the work that creates for staff and also I guess the potential for instability in what we have to do here.

MR. O'REILLY: Mr. Chairman, just a couple of things. Based on what I've heard from Dr. Drew and also Charlton, it seems that we're just

seeking a continuum that we had since 1995 in the bay. With Amendment 5 we had reference points for the bay. They certainly were not as representative as the statistical catch at age is going to be able to develop. We've already had some interim looks at what they are; so we're really not asking for anything new. We're just asking for the Chesapeake Bay to have those reference points. That has been the contention since October of 2013.

Now, the difficult part I understand, the reduction end of things, so I understand that; that is sort of a facet of this that could, with the different fleets, be problematic at first. But it would seem that is going to have to be done at some point, perhaps once we get through the current management framework that we have in place now, anyway.

The other part of this I think is that we know that Delaware Bay has some interest as well; and that can be facilitated, as you've indicated, through the next benchmark. So sooner or later we have to address the hardest part of what I've heard mentioned today. The rest I see as pretty much status quo management.

As a matter of fact, the harvest control model I agree should be improved by the fact that the F will be seeded by the statistical catch at age as opposed to the way it has been done for the last 20 years or so. I guess my question is are we really changing things that much when you look at the 20-year process that we've had; and, of course, the baywide quota was 1997, so a little less than 20 years.

I also wonder are really throwing up a brick wall about the ability to do an annual update when once we see the first results of this, maybe the board doesn't think an annual update is necessary. After all, we're sitting here under either a 20.5 percent reduction or a 25 percent reduction; and we're going to be sitting here for a little while longer without an update. So I just want to be sure that if there are obstacles; that they're realistic obstacles. I think I have heard it said before than annual update could be done if necessary. So I guess maybe part question, Mr. Chairman, part comment; but those are the situations the bay is looking at.

MR. G. RITCHIE WHITE: I guess I don't see how this gains any time if we to wait until August to get data to proceed. I guess I don't understand what we're gaining by doing this now and not waiting until August, number one. Number two; I guess I want to see what comes forward at the August meeting. If I'm understanding this – and I'm not sure I do – that this really could be a reallocation; am I correct in that?

DR. DREW: The reference points were designed so that there is not a reallocation. I think you could imagine reference points where – it is a spectrum. You can imagine the coast gets to take all of the fish and the bay gets none or the bay gets all of the fish and the coast gets none and you could still have a sustainable population.

Somewhere in the middle is presumably where the board would like to end where both the coast and the bay are able to take fish from this population. There is a whole spectrum in there that the technical committee has not gotten into at all and we've relied strictly on the most recent I think five years of data to look at how that F has been split between these different fleets. There is an allocation question if the board would like to pursue that; but that is beyond the scope of what the technical committee provided.

MR. WHITE: If it is not potential reallocation, what is the benefit to the Chesapeake Bay to do this?

DR. DREW: I think you would have to ask the bay what they perceive the benefit to be.

CHAIRMAN GROUT: I'll let the maker of the motion respond to that.

MR. O'CONNELL: It is interesting the comment about reallocation because from the bay jurisdiction's perspective that is exactly what

happened with Addendum IV. If you look at the fleet-specific reference points, you will see that the Chesapeake Bay fishing mortality has been relatively constant to decreasing over the last decade and the coastal increased.

Actually with the coastal fishery alone, in six of the last ten years that exceeded the F target; so by blending it all together the bay jurisdictions and our stakeholders feel like we're taking a greater burden of that situation. Our interest is to establish these reference points and hold us accountable for our fishery.

We assume that there is still going to be some reductions needed but perhaps not to the degree of 20.5 percent. Separation of the reference points was the main reason for establishing Addendum IV; so it has been a priority of this board. There have statements from this board and the technical committee that management would benefit from separating these reference points out. Whether this motion passes today or August, I'm a little concerned that if it gets punted to August we may not be in a position to implement plans if approved for 2016. That is our interest at least from Maryland's perspective.

MR. FOTE: Now that Tom opened up that can of worms, this is the worm I've been going at all along. The fact is when you calculate for the Chesapeake Bay, you basically use that as the only producing area and basically doing the F and the regular coast. Now, that was fine when the Delaware River was only contributing 5 percent to the coastal migratory; but as we've seen some of the studies right now, the contribution of the Delaware River is a larger portion of that.

What is going on outside of the Chesapeake Bay, it might be the Chesapeake Bay that has had serious problems where the Delaware River and the Hudson doesn't; and we are basically letting them not take the same reduction as the 20 point percent that came out; and we're taking 25 percent in the other producing areas as whole; so you can basically use that – and that is where my concern is. It is not allocation but how you use that and basically taking that mortality and using it against the Chesapeake Bay for the other two jurisdictions.

If we're doing it the way you're doing it, if you look at that as the only – and we don't get to count them as producing areas; so you use an exaggerated producing area F value because you're taking everybody else into consideration since we're not supposed to be fishing on the spawning stock biomass in the producing areas and we count them as coastal migratory stock where you basically are fishing coastal migratory stocks and then pre-spawners because you get the double dip in there.

There are a lot of things going on that I've been looking at for the last 20-something years as how we do this, and I'm trying to get it where we basically make a decision so maybe we should have stayed at 25 percent in the Chesapeake Bay if that is the stock that is in trouble or the stock that is contributing to less fish migrating up and down the coast at a particular time. We can't figure that out unless we actually have the science to do that; and we've been postponing that decision for 20-something years.

MR. GIBSON: Mr. Chairman, I'm sorry I'm challenging your attempt to make up time, but it is an important issue. The only way I could support this motion is if I knew I was going to go home very confident that the management measures we just passed through an agonizing process if the coastal measures were not going to be weakened.

That is the percent reduction in F estimated for one fish at 28 option and its 50 percent probability of attainment; neither those were going to be reduced as a result of what might come out of this process. We just can't have that happen. It took too much to get to that point; and I'm not hearing commentary here that is giving me good feeling about that.

In fact, what I just heard from Tom was that there is some perception that they've been giving up too much for too long. Well, you can't get more unless somebody else gets less. I mean, that is just the way it is. I'm not hearing that I could support this motion at this time.

I might be able to consider it in August if the technical committee came back and told me exactly how this balancing of the reference points was going to happen and it was going to happen in the context of what we just did is going to remain intact with the past action.

MR. EMERSON C. HASBROUCK, JR.: Mr. Chairman, being relatively new to this commission, I don't have the history on this that many of the other commissioners have. My question is if we previously had Chesapeake Bay fishing mortality reference points and we don't have them now and there was a reason why we didn't develop them in this last amendment that we went through; so why is it that we don't have them now and we had them before and has anything changed since last August that is going to allow us to now calculate them?

DR. DREW: The reason we don't have them now is because they were not a product of the last assessment. The way they were calculated before, I think the technical committee had some concerns that they were not calculated appropriately and they resulted in values that were too high. I think even the Chesapeake Bay would agree that those values were too high in that their harvest control method never used those values directly and in fact tried to keep F at a much lower level.

I think part of the problem was that they were – well, they were not calculated correctly and they were too high to be sustainable. So going forward, the technical committee as part of this assessment process provided the coast-wide reference points because they accomplished what the Chesapeake Bay reference points had originally intended to do, which was to take into account the fact that the Chesapeake Bay does have a different selectivity pattern.

They're fishing on a different component of the stock than the entire coast-wide fleet. The technical committee also had concerns about these reference points not really reflecting a biological stock-specific reference point. The reference points that we provided were consistent with the way the assessment was done and they provided a way for the entire fishery on the Atlantic Coast to operate in a sustainable manner on this coast-wide meta-population of striped bass.

They were never part of the assessment process and they were never peer reviewed, so they went into the amendment process without – we went forward without those reference points. The board has asked us to continue to work on this issue, which as you can tell from the amount of time it has taken the technical committee to do this, it is not an easy task.

It is a complex task that frankly we're missing a lot of important data to be able to give biologically reasonable stock-specific reference points; so we've fallen back on this proxy concept. The short answer is the way it was done before was the technical committee did not believe that was appropriate and it has taken us time to develop an acceptable proxy going forward.

MR. BORDEN: Mr. Chairman, I'm not comfortable with the motion for a whole number of reasons and I won't repeat everything that everybody has said. I have no personal objections to moving forward with developing this and then reporting at the August meeting. If it stays this way, I'll vote against it. If Tom and Rob want to remove the commitment at this stage develop an addendum, then I would vote for it. Thank you.

CHAIRMAN GROUT: Further comments on this motion? Seeing none; we'll take a vote on this. I'll give you 30 seconds to caucus.

(Whereupon, a caucus was held.)

CHAIRMAN GROUT: Are we ready to vote on this? Rob, we're in the process of voting; what is your point?

MR. O'REILLY: You were about to vote I think. My point was is there a chance to ask for a tabling this motion until August? We've listened to the sentiment of the board and it can be something – the technical committee will have that information by August. We can either let this die now or we can table it; and we prefer to table it. I would make a motion to table this before the vote is taken.

CHAIRMAN GROUT: We were already in the process of voting on this and I think we should vote this up or down. Clearly, if this goes up, it will work in your favor. If it goes down, then there is nothing that prevent this board from bringing that same motion at the next meeting. We could also task the technical committee with coming up with a reference point. I think we were at the point of taking a vote. I had asked if there was any further discussion on this, Rob.

I don't mean to cut you off and I know that is your intent, but it was kind of at the last moment after we were ready to vote. I'm going to take the vote on this. **All states in favor raise your hand; all those opposed; abstentions; null votes. The motion fails five to nine to two to zero. We have defeated this motion at this point.**

Is there any objection from the board to tasking the technical committee to develop the bay reference points as well as the revised coastal reference point? I assume you probably have to revise the tagging reference point or the tag-based fleet, too – to come up that and provide it for us at the August meeting. Is there any objection to that? Seeing none; we've tasked the technical committee with that and we'll bring it back at the August meeting. Ritchie White.

MR. WHITE: Just a question as to timing; because the discussion earlier was they might be able to get it to August; so adding the coastal reference points, is the technical committee still comfortable in being able to do this for the August meeting?

MR. MICHAEL WAINE: What we were discussing up here was whether the board wants to see what the reference points would be or whether the board wants to see what the reference points would be as well as what the projections would be to achieve those reference points if they were separated? Those are two separate tasks that obviously require different time commitments.

CHAIRMAN GROUT: Any discussion on that? Tom.

MR. O'CONNELL: From my understanding, the board is interested in the latter of what Mike just said. I understand that wouldn't be available by August but could potentially be by the annual meeting, if I understood that correctly. Ultimately it seems the board is wanting to know what management changes would affect us achieving that target fishing mortality that we've worked so hard to implement plans for this year. I think ultimately the board is looking for the latter part of that information, which puts us into the annual meeting.

CHAIRMAN GROUT: Is that the case is if we were going to go for projections, we're talking about the annual meeting?

DR. DREW: Yes; I would not be comfortable saying that we could guarantee that we could have it by August. To do the projections requires a significant change to how we have set the projections up and that we would be treating these as all separate fleets and sort of adjusting those reductions within the projection model is much more complex than assuming sort of this overall reduction that everybody shares equally. It is a much different and more complex situation. In addition to the fact that

we are doing an assessment update in hopes of presenting that at the meeting as well; so I think the annual meeting would be a reasonable timeframe.

CHAIRMAN GROUT: Would the board like to see the reference points in August and then the projections in the November meeting? Any objection to that? Rob, you had a question?

MR. O'REILLY: That was my request, exactly.

REVIEW OF VIRGINIA'S TAGGING, MONITORING AND SEINE PROPOSALS

CHAIRMAN GROUT: Any objections to that? Seeing none; we have tasked the technical committee with this. The next item on the agenda is the technical committee report, a review of Virginia's tagging, monitoring and seine proposals. Charlton will have a brief presentation on this.

MR. GODWIN: We reviewed a couple of proposals. One was for Virginia's tagging and monitoring programs and another is for a seine-calibration proposal relative to the Juvenile Abundance Index in Maryland. Virginia's Adult Striped Bass Surveys of Abundance in tagging programs have been ongoing since 1987.

They've been conducted by the Virginia Institute of Marine Resources in conjunction with VMRC. They include a pound net survey in the Rappahannock River and gillnet surveys in the Rappahannock and James Rivers. The pound survey occurs in the Rappahannock River; and that is used an Index of Abundance in the stock assessment.

The fish that are tagged in that survey are also used in the coast-wide tagging programs. No changes are proposed for that part of the survey. Currently the gillnet survey in the Rappahannock and James Rivers has a 24-hour soak time. Fish are not tagged from this survey due to the 24-hour soak time. The Index of Abundance that is produced from that survey is currently not used in the stock assessment because it doesn't track well with the changes in stock abundance.

The gillnet survey proposed changes would be to eliminate the 24-hour soak time and initiate a shorter soak time set survey, so this would be from 30 minutes to 2 hours; expand the gillnet survey into the York River. The shorter soak times will allow tagging in the James and York Rivers. Tagging results should be more reflective of the multiple spawning stocks found in the Virginia portion of the bay. Once again, expanding that monitoring into the York River may track stock dynamics better, which will allow inclusion – potentially could allow inclusion of that index in the stock assessment once they've had a few years of survey data.

The general technical committee comments and suggestions – and this kind of gets to the point earlier that Mr. O'Reilly was with the tagging and it is still important for tagging – consider tagging smaller fish than the legal size as this information may be more important for looking at migration rates for stock-specific reference points, especially if fish don't migrate in its smaller sizes.

There was also a comment that the upper end of two hours for the soak time may be too much and the fish that enter the nets may not be in good condition for tagging; so the recommendation was to use a shorter soak time instead. Be aware of the different selectivities between gear types, foreseeing differences in catchability.

This could be due to different gear types or due to availability of fish in different rivers. If possible, allowing the start of the survey with water temperature instead of a set start date. We found out that they have their start date kind of set because of some other commercial regulations in that area; so that wasn't really an option. Overall, the technical committee approved those proposed changes with the above suggestions.

Moving to the Virginia and the Maryland Seine Calibration Proposal; we'll give you the background and need for this. Once again, VIMS and Maryland DNR conduct the annual finfish juvenile abundance surveys throughout the Chesapeake Bay. This, of course, is used in the striped bass assessment, but it is also used in monitoring several other finfish species in the bay.

Sampling is done at fixed stations using a hundred foot beach seine. The net material that has been used to make this beach seine is no longer available. Therefore, comparison studies need to be made to determine if there is a significant difference in the catch of the old versus the new seine net. Part of this calibration study will include side-by-side sweeps using the seine nets constructed with the new material and the old material to calculate the calibration factor or to determine if one is needed.

Also, two block net studies will be conducted to estimate relative catch efficiency of the new mesh material compared to the old mesh material. The block net studies will have a known number of tagged hatchery fish introduced to determine catch efficiency of these nets. So just some general comments and suggestions that the technical committee has, which were noted in our memo.

There was some concern about some tag shedding; and it may be appropriate to call it a mark and so this little small elastomer marks that are used on these fish, so literature-based tag retention estimates would need to be incorporated into the analysis to account for this. It was also suggested by a technical committee member that a hatchery pond could be used instead of the block net survey – the in situ block survey to eliminate some variability.

This would also eliminate the need for tagging because you would have a known number of fish in your hatchery pond as opposed to setting the block net study. Some of the comments from the folks putting up the proposal it may be okay for striped bass but may pose some problems for other species. The proposal is also aimed at the study and it may not capture any variability in the catchability due to the turbidity and tidal conditions; so it would just be less of a natural setting. A lot of these areas are influenced by the tidal conditions of the bay; and that would be lost if you used a hatchery pond.

There were just some concerns over having a large enough sample size; so if this study is conducted during a year of poor recruitment, you may not have a large enough sample size to really get at the statistical analysis that they're looking at doing, especially using a linear model. We talked also about the shape of the sweep of the net can also be a big factor in catchability, so that should be standardized as much as possible.

Another comment was with the side-by-side comparisons, they had picked some sandy sites; and by looking at sandy sites only, you may not get a conversion factor applicable to more historical data. Overall the technical committee approved this study as well with the above suggestions to be considered. The last slide; scientists at VIMS did indeed provide the technical committee with responses and clarifications to our suggestions and the concerns of the technical committee. The technical committee approved both proposals. I'll take any questions.

CHAIRMAN GROUT: Questions for Charlton? Emerson Hasbrouck.

MR. HASBROUCK: Could you go back a little bit to where you were talking about sample size or possible sample size not being large enough. Yes; concerns over large enough sample size; may not have a large enough sample size particular for the approach – if we're using that model, isn't sample size the number of hauls or repetitive hauls or comparison hauls rather than how much you catch in each? I mean, sample size is not the catch, right; it is the

number of replicates that you have to compare the two?

MR. GODWIN: Well, that is one part of it, but also if you – and this was just a comment that if it was a year in which you had a particularly low abundance of striped bass, you're right, the number of replicates and compared tows certainly comes into play; but if you're catching very few striped bass in either one of those tows, you're ability to check the significance difference between those is going to be a little bit more limited.

It was just a suggestion that if it did indeed turn out to be a year to where you had a real poor recruitment, could it be done in another year. We had this same issue in North Carolina in the eighties when we were calibrating our juvenile abundance survey to the survey that had been conducted by Dr. Haislip for so many years at NC State. Even though we did it for several years, it was during that period of low recruitment, and that was an issue with the final analysis. Hopefully, we won't have that issue this year.

CHAIRMAN GROUT: Further questions? Okay, we have two recommendations from the technical committee to approve changes to both the tagging program and calibrating the seine net; and they approved that. Does the board have any objections to approving this? Seeing no objections; the changes are approved.

UPDATE ON STATE IMPLEMENTATION OF ADDENDUM IV

CHAIRMAN GROUT: I will move now to Mike Waine, and he is going to provide an update on state implementation of Addendum IV.

MR. WAINE: I will move quickly through this with hopes to get us back on schedule. Essentially this memo was in your supplemental materials. It outlines exactly where the states stand in terms of implementing Addendum IV; so all of this should look very familiar to you as you've been working very hard to implement these measures.

Table 1 and Table 2 in the memo that I distributed detail this much more specifically than I'm going to talk about in the PowerPoint. The measures are to achieve a 25 percent reduction in removals for the coastal fishery and a 20.5 percent reduction for the Chesapeake Bay fishery. For the recreational portion of that in terms of the coastal fishery, Maine is still in rulemaking.

The states of New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, Maryland, Virginia and North Carolina all implemented one fish at 28-inch minimum in their coastal areas. As you remember, at our last meeting there was a lot of consideration of conservation equivalency proposals and a lot of states for their coastal fisheries ended up at one fish at 28-inch minimum.

New Jersey and Delaware did implement their conservation equivalency measures as shown in the table and on the slide here. Then river- and bay-specific measures for New York, New Jersey, Pennsylvania and Delaware are also detailed in the tables. All those regulations achieve at least a 25 percent reduction in removals.

For the Bay, Maryland, the District of Columbia, Potomac River Fisheries Commission and Virginia implemented this measure of two fish, 20- to 28-inch slot, or one within that slot or one greater than 28 inches. They also have a trophy season regulation. There is a little bit more specifics also detailed in the table on those. All those regulations also achieve the 20.5 percent reduction.

In terms of the commercial fishery, I'm just reminding the board that these reductions were taken from the Amendment 6 quotas. These are those quotas after the resulting reduction and a little bit of a breakdown of that. There is recreation bonus fish programs in Connecticut and New Jersey. There is the Chesapeake Bay

quotas. All of this is detailed in the tables that were included in the memo.

There is two outstanding tasks that the technical committee was unable to produce for this meeting because the completion of those tasks relied on the states having implemented the measures so that we could compute what the reduction would end up being after all those measures were implemented within all the states and jurisdictions. I just wanted to alert the board that there are two tasks that the technical committee will be delivering for their August meeting as a follow-up to the implementation of Addendum IV. Thank you very much.

MR. TERRY STOCKWELL: Not a question, Mr. Chair, just an update on Maine's rulemaking; that Maine is proposing consistent with the other New England states one at 28. Our APA process requires us to bring proposed rulemaking before an advisory council. The advisory council meets on Thursday.

MR. O'REILLY: I guess it is too late to be concerned about the probability of achieving or getting lower than the target F at this point, which was brought up at the last meeting. I know the reason it got rekindled; there was a comment from one board member being concerned about the reduction schedules and if there was a change in the bay; that some would do more and some would do less.

But recognizing that the coastal commercial started off on a bad footing with the board as far as just going from Amendment 6; we know that probability has become lower, but is there – and I mean this as a question to I guess Dr. Drew and Charlton – is there really a need now to follow through with that? I didn't see it up there, but it was definitely a request as sort of what are we really getting into once we know what the state measures are?

DR. DREW: My understanding is that would have been part of number one; that we would have maintained that 50 percent probability question in order to figure out what the final likelihood of overfishing or achieving your target is based on the new proposed reductions from everyone. I'm not sure what your question is. Do you want to revisit the 50 percent probability or –

MR. O'REILLY: I think your answer helped out a lot now see that that is the intention as part of one; so I think that's fine.

ADJOURNMENT

CHAIRMAN GROUT: Any other questions? Okay, anything else before this board today? Seeing none; I'll take a motion to adjourn. I sense unanimity in this motion.

(Whereupon, the meeting was adjourned a 4:00 o'clock p.m., May 5, 2015.)

From: Bonnie Curtin [mailto:beeceenh@comcast.net]
Sent: Tuesday, June 16, 2015 11:51 AM
To: Comments
Subject: Commercial Fishery for Striped Bass in MA

Shame on the Commission and the Commissioners that have allowed commercial fishing of Striped Bass in Massachusetts. You do not serve in the best interest of the Citizens of the Atlantic States or the United States when you make decisions that are against common sense and conservation of species that need your protection.

Very truly yours,

Bonnie Curtin
NH Native
FL Resident

Atlantic States Marine Fisheries Commission

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MEMORANDUM

July 20, 2015

To: **Atlantic Striped Bass Management Board**

From: **Atlantic Striped Bass Technical Committee**

RE: **Fleet-specific Fishing Mortality Reference Points for Atlantic Striped Bass**

At their May 2015 meeting, the Atlantic Striped Bass Management Board reviewed the Technical Committee report for developing fishing mortality (F) reference points for the Chesapeake Bay. The Board tasked the Technical Committee to develop fleet-specific fishing mortality reference points for the Ocean fleet and the Commercial Discard fleet consistent with the methodology reviewed for the Chesapeake Bay fleet F reference points.

Enclosed is a report detailing the fleet-specific fishing mortality reference points for the three fleets in the SCAA model; the Chesapeake Bay fleet, the Ocean fleet, and the Commercial Discard Fleet.

Enclosed: Fleet-specific fishing mortality reference points for striped bass

M15-64

Fleet-specific Fishing Mortality Reference Points for Atlantic Striped Bass

Executive Summary:

Note: the 2013 Atlantic striped bass stock assessment modeled removals from the population as three fleets: a Chesapeake Bay fleet, a coastal fleet, and a commercial discard fleet. To reduce confusion between "coastwide" and "coastal" reference points/fleets, this document will be referring to the "coastal" fleet as the "ocean" fleet. The "ocean" fleet includes landings from Delaware Bay, estuarine areas, and other technically non-ocean fisheries, but the majority of landings are from ocean areas within the State's jurisdictions. Thre is currently no striped bass fishing allowed in the U.S. EEZ.

The 2013 assessment put forward a set of F and spawning stock biomass reference points for the coastwide striped bass population. Those coastwide striped bass reference point values were:

	Target	Threshold
SSB	72,032 mt	57,626 mt
F	0.180	0.219

At the Board's direction, the Striped Bass Technical Committee has been working to develop fleet-specific F reference points that will ensure that the impact of each fleet on the total coastwide striped bass population remains sustainable. When each fleet fishes at its target F reference point, the maximum total F-at-age on the population is equal to the coastwide F target.

When compared to their individual fleet reference points, the ocean fleet is at the F target, the Chesapeake Bay fleet is 10.8% above its target, and the commercial discard fleet is 53% above its target. F in the ocean has declined faster over the last five years than F in the Bay, which has remained steady. F in the discard fleet has increased in recent years, although the overall value remains low.

Proposed fleet reference points and 2012 F status

Fleet	F target	F threshold	F 2012	% Difference from target in 2012
Ocean	0.141	0.172	0.141	0%
Chesapeake Bay	0.052	0.064	0.059	10.8%
Commercial Discard	0.0194	0.0236	0.041	52.8%

It is important to note that commercial discards cannot be split between the Bay and the ocean fisheries. Commercial discards are estimated from tag returns, and these estimates are highly uncertain due to variable tag return rates each year, among other reasons. Discarding appears to be primarily regulatory, due to size limits, closed seasons, quotas, and gear restrictions.

Given the difficulties of controlling F from discards, a target and threshold for the commercial discard fleet may not be meaningful for management. However, without a control on this source of mortality, the population could still experience overfishing even with the Bay and the ocean fleets fishing at their targets. If F from the discard fleet cannot be reduced through management action, the Bay and ocean fleets will have to take reductions to maintain the coastwide F at the target.

Methods:

The full F values for the target and threshold were calculated using a composite selectivity that used the geometric mean of the most recent five years of total F-at-age, divided by the maximum F-at-age to scale the curve to one. This essentially weights the selectivity pattern of each fleet (ocean, Chesapeake Bay, and commercial discard) by the degree to which they are contributing to total fishing mortality on the population. The Chesapeake Bay and commercial discard fleets are dome-shaped, peaking at age 5, while the ocean fleet is flat-topped, peaking at age 13+.

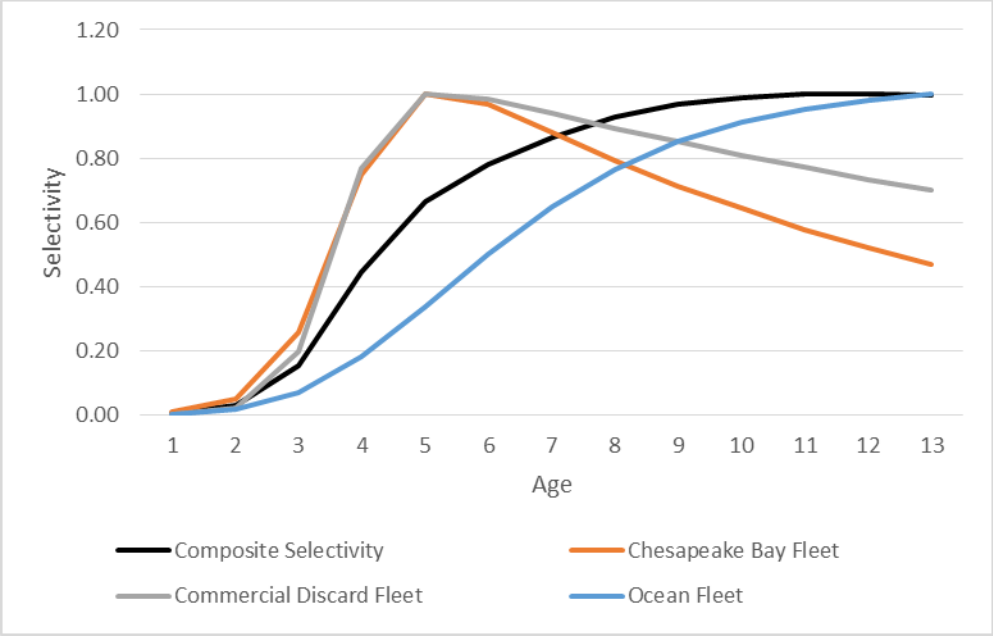


Figure 1. Comparison of the composite selectivity used to calculate the F reference points to the selectivities of the 3 fleets in the model.

To calculate the Bay-specific F reference point, the ratio of F-at-age-5 from the Chesapeake Bay fleet to total F-at-age-5 was calculated (using the ratio of means for the last five years). This ratio was multiplied by the selectivity-at-age from the composite fleet at age-5 and the F_{target} and $F_{threshold}$ values to obtain the full F target and threshold values for the Chesapeake Bay.

Table 1. Chesapeake Bay fleet reference point calculations

	Total F-at-age-5	**CB Fleet F-age-5**	**Annual Ratio**	**Ratio of Means**	**F_{target}**	**$F_{threshold}$**
2008	0.141	0.057	0.407	0.44	0.052	0.064
2009	0.145	0.069	0.477			
2010	0.131	0.066	0.503			
2011	0.158	0.065	0.412			
2012	0.147	0.059	0.398			

For the ocean and commercial discard fleets, a similar approach was used. For the commercial discard fleet, the ratio of total F-at-age-5 to fleet F-at-age-5 was also used; for the ocean fleet, the ratio of total F-at-age-12 to fleet F-at-age-12 was used, and the reference points were corrected for the not quite full selectivity on age-12 for this fleet (0.98 as opposed to 1), since full selectivity in the ocean fleet occurs at age 13+.

Table 2. Ocean fleet reference point calculations

	Total F-at-age-12	**Ocean F-at-age-12**	**Annual Ratio**	**Ratio of Means**	**F_{target}**	**$F_{threshold}$**
2008	0.248	0.210	0.847	0.770	0.141	0.172
2009	0.205	0.151	0.737			
2010	0.200	0.158	0.787			
2011	0.241	0.185	0.768			
2012	0.199	0.139	0.696			

Table 3. Commercial discard fleet reference point calculations

	Total F-at-age-5	**Discard F-at-age-5**	**Annual Ratio**	**Ratio of Means**	**F_{target}**	**$F_{threshold}$**
2008	0.141	0.011	0.081	0.163	0.0194	0.0236
2009	0.145	0.024	0.168			
2010	0.131	0.011	0.086			
2011	0.158	0.030	0.188			
2012	0.147	0.041	0.280			

The sum of the individual F targets exceeds the coastwide F_{target} value. However, when the total F-at-age is calculated (by multiplying the individual fleet F reference points by their respective selectivities and summing at age), the maximum F-at-age is equal to the coastwide F target (Table 4).

Table 4. Fleet and total F-at-age values when fishing at F_{target}.

	Selectivity				F target -at-age			
Age	Composite Selectivity	Ocean fleet	Comm. discards	CB fleet	Ocean fleet	Comm. discards	CB fleet	Total F
1	0.004	0.00	0.00	0.01	0.000	0.000	0.000	0.001
2	0.030	0.02	0.02	0.05	0.002	0.000	0.003	0.005
3	0.151	0.07	0.20	0.26	0.010	0.004	0.013	0.027
4	0.443	0.18	0.77	0.75	0.026	0.015	0.039	0.079
5	0.663	0.34	1.00	1.00	0.047	0.019	0.052	0.119
6	0.781	0.50	0.98	0.97	0.071	0.019	0.050	0.140
7	0.866	0.65	0.94	0.88	0.091	0.018	0.046	0.155
8	0.927	0.76	0.89	0.79	0.108	0.017	0.041	0.166
9	0.967	0.85	0.85	0.71	0.120	0.017	0.037	0.174
10	0.990	0.91	0.81	0.64	0.129	0.016	0.033	0.178
11	0.999	0.95	0.77	0.58	0.134	0.015	0.030	0.179
12	1.000	0.98	0.73	0.52	0.138	0.014	0.027	0.180
13+	0.995	1.00	0.70	0.47	0.141	0.014	0.024	0.179
						Maximum F-at-age:		0.180

Results

When compared to their individual fleet reference points, the ocean fleet is at the F target, the Chesapeake Bay fleet is 10.8% above its target, and the commercial discard fleet is 53% above its target (Table 5). F in the ocean has declined faster over the last five years than F in the Bay, which has remained steady; F in the discard fleet has increased in recent years (Figures 2 and 3).

Table 5. Fleet reference points and 2012 F status

Fleet	F target	F threshold	F 2012	% Difference from target in 2012
Ocean	0.141	0.172	0.141	0%
Chesapeake Bay	0.052	0.064	0.059	10.8%
Commercial Discard	0.0194	0.0236	0.041	52.8%

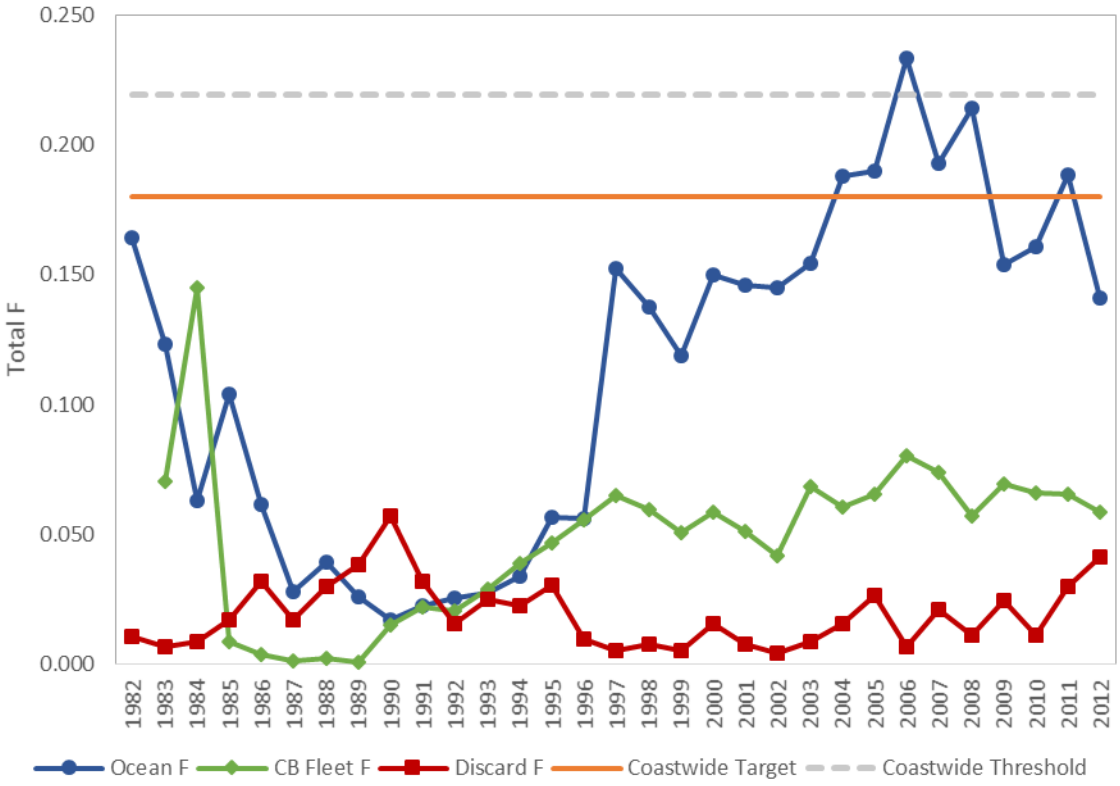
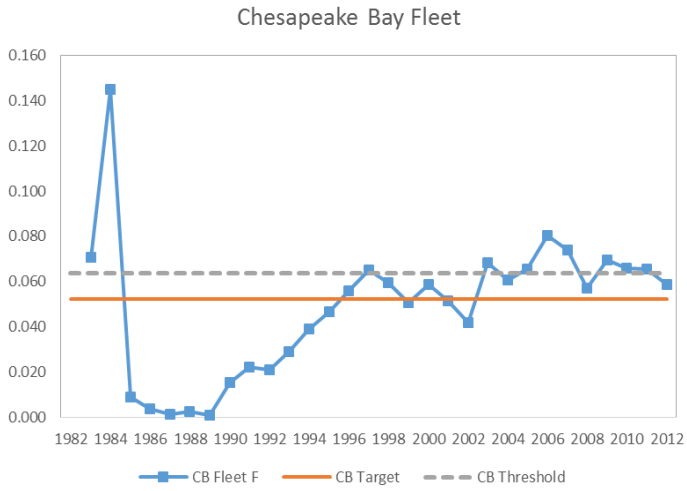
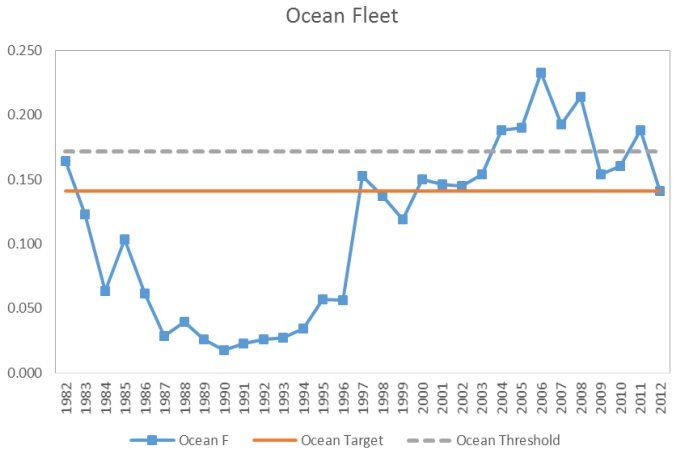


Figure 2. Full F for each fleet relative to the coastwide target and threshold.





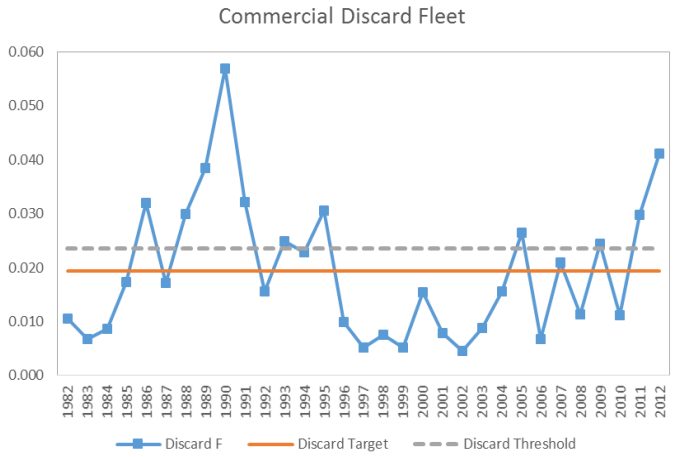


Figure 3. Full F and their respective targets and thresholds for the Chesapeake Bay fleet (top), ocean fleet (middle), and commercial discard fleet (bottom).

Atlantic States Marine Fisheries Commission

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MEMORANDUM

July 20, 2015

To: **Atlantic Striped Bass Management Board**

From: **Atlantic Striped Bass Technical Committee**

RE: **Atlantic Striped Bass Harvest Reduction Estimate for the 2015 Fishing Season**

Addendum IV to Amendment 6 establishes new fishing mortality reference points (F target and threshold) for striped bass. In order to reduce F to a level at or below the new target (F= 0.18), the coastal states are required to implement a 25% harvest reduction from 2013 levels and the Chesapeake Bay state/jurisdictions are required to implement a 20.5% harvest reduction from 2012 levels. Under Amendment 6, states were able to submit conservation equivalency proposals that meet reduction requirements. Submitted proposals were reviewed by the Technical Committee (TC) and approved by the Board in February 2015.

The TC estimates a 28.2% reduction for coastal states and a 21.4% reduction for Chesapeake Bay states/jurisdictions, and a 25.6% reduction overall. The enclosed report details the TC's harvest reduction estimate for 2015 utilizing final state regulations.

Enclosed: Striped Bass Harvest Reduction Estimate for the 2015 Fishing Season

M15-62

Atlantic Striped Bass Harvest Reduction Estimate for the 2015 Fishing Season

Note: The Striped Bass TC would like to remind the Board that these estimates are based on the assumption that 2015 catch will be characteristically similar to that in 2013 for the coastal states and 2012 for Chesapeake Bay states/jurisdictions. Actual 2015 harvest numbers could differ from the reported estimates due to unknown variables, including non-compliance rates.

Recreational Harvest:
For 2013 estimated removals, fish harvested (A + B1) and 9% of fish released alive (B2) were summed for each state fishery and multiplied by the estimated percent reduction for that fishery under Addendum IV (i.e., 31% for one fish bag limit at 28 inches minimum size, or retrieved from that state's conservation equivalency proposal). State fishery estimates were summed for a total recreational removal estimate for 2015. All 2013 values were queried from MRIP.

Table 1. Estimated recreational harvest for 2015. The 2013 estimated harvest is equal to the sum of A, B1, and 9% of B2. Estimates do not account for poaching. Note: MRIP surveyors do not cover Pennsylvania or the New York portion of the Delaware River and Hudson River fisheries.

State-fishery	% Estimated Reduction	Data Source/Query	2013 (A+B1)	2013 (B2)	2013 Estimated Removals	2015 Estimated Removals
ME	31	MRIP/All Areas	23,143	422,598	61,177	42,212
NH	31	MRIP/All Areas	17,657	84,015	25,218	17,401
MA	31	MRIP/All Areas	298,945	1,691,026	451,137	311,285
RI	31	MRIP/All Areas	218,236	826,280	292,601	201,895
CT	31	MRIP/All Areas	143,081	778,250	213,124	147,055
NY- coastal	31	MRIP/All Areas	490,855	989,783	579,935	400,155
NY- DE River	31	-	-	-	-	-
NY- Hudson	25.9	-	-	-	-	-
NJ	25.1	MRIP/All Areas	345,008	1,107,218	444,658	333,049
DE	25.18	MRIP/All Areas	19,520	83,494	27,034	20,227
MD- CB*	22	MRIP/Inland	420,108	2,381,858	634,475	494,891
MD- Trophy*	25.1	Compliance Report	48,534	-	48,534	36,352
MD- Coastal	31	MRIP/Oceans	8,654	5,419	9,142	6,308
[1]DC	-	-	-	-	-	-
[2]PRFC	-	-	-	-	-	-
VA- CB*	22	MRIP/Inland	86,368	165,532	101,266	78,987
VA- Coastal	31	MRIP/Oceans	636	3,457	947	654
VA- Trophy*	25	Compliance Report	23	-	23	17
NC	31	MRIP/Oceans	-	1,057	95	66
Total Harvest			2,120,768	8,539,987	2,889,367	2,090,553

* Virginia and Maryland migratory harvest estimates from 2014 striped bass compliance report for the 2013 fishing season. Migratory harvest subtracted from MRIP data query for CB 2013 harvest removals.
[1] The Fisheries Research Branch currently has no method of accumulating recreational catch data for the directed harvest of striped bass; cited from 2014 DC striped bass compliance report for the 2013 fishing season.
[2] Potomac River Fisheries Commission recreational fisheries are monitored through the NMFS-MRFSS and estimated harvest and losses are included within the Maryland and Virginia combined MRFSS estimate for the Chesapeake Bay and its tributaries (all Potomac River harvested fish are landed in either MD or VA).

Coastal Commercial Harvest:

The Addendum IV quota represents a 25% reduction from the Amendment 6 quota. The 2013 harvest was compared to the Addendum IV quota to estimate each state's harvest for 2015. If the 2013 harvest is less than the Addendum IV quota for that state, then the same harvest was assumed for 2015. If the 2013 harvest is greater than the Addendum IV quota, then the 2015 harvest is assumed to be equal to the Addendum IV quota. State compliance reports were used to convert estimates from pounds to number of fish.

Table 2. 2015 coastal commercial harvest estimates. All data are from 2014 striped bass compliance reports for the 2013 fishing season. Estimates do not account for dead discards or poaching.

State	Amend. 6 Quota (lbs)	Addend. 4 Quota (lbs)	2013 average weight per fish (lbs)	2013 Harvest (lbs)	2013 Harvest (#fish)	Estimated 2015 Harvest (lbs)	Estimated 2015 harvest (#fish)
ME *	250	188	-	-	-	-	-
NH *	5,750	4,313	-	-	-	-	-
MA	1,159,750	869,813	17.00	1,002,519	58,547	869,813	51,165
RI †[0]	243,625	182,719	65%/22lbs 35%/12lbs	231,280	13,825	181,572	10,660
CT **	23,750	17,813	6.13	1,791	292	1,791	292
NY †	1,061,060	795,795	10.81	823,801	76,206	795,795	73,617
NJ **[0]	321,750	241,313	15.10	6,096	404	6,096	404
DE	193,447	145,085	10.82	191,424	17,679	145,085	13,409
MD †[0]	131,560	98,670	12.29	93,532	7,608	90,727	7,380
VA	184,853	138,640	22.86	182,427	7,980	138,640	6,065
NC	480,480	360,360	-	-	-	-	-
Coastal Total	3,806,275	2,854,709	14.38	2,532,870	182,541	2,229,519	162,992

* Commercial harvest/sale prohibited, with no re-allocation of quota.
** Commercial harvest/sale prohibited, with re-allocation of quota to the recreational fishery.
† Amendment 6 Quota reduced through management program equivalency; NY (828,293 pounds) and MD (126,396 pounds) beginning in 2004, RI (239,963 pounds) beginning in 2007.
[0] Addendum 4 quota reduced through conservation equivalency for MD (90,727 pounds), NJ (215,912 pounds), and RI (181,572; 65% of 2013 landings from general category fishery, and 35% from floating fish trap fishery).

Chesapeake Bay Commercial Harvest:

The Addendum IV quota represents a 20.5% reduction from the 2012 Chesapeake Bay commercial harvest. The 2012 harvest was compared to the Addendum IV quota to estimate each state's harvest for 2015. If the 2012 harvest is less than the Addendum IV quota for that state, then the same harvest was assumed for 2015. If the 2012 harvest is greater than the Addendum IV quota, then the 2015 harvest is assumed to be the Addendum IV quota. State compliance reports were used to convert estimates from pounds to number of fish.

Table 3. 2015 commercial harvest estimate for the Chesapeake Bay. All data are from 2013 striped bass compliance reports for the 2012 fishing season. Estimates do not account for dead discards or poaching.

State	Amend6 Quota	Addend. 4 Quota (lbs)	2012 Harvest (#fish)	2012 Harvest (lbs)	2012 Average weight per fish (lbs)	Estimated 2015 Harvest (lbs)	Estimated 2015 harvest (#fish)
VA	1,430,361	1,064,626	103,703	1,339,152	12.91	1,064,626	82,444
MD*	1,865,680	1,471,888	465,644	1,851,431	3.98	1,471,888	370,187
PRFC	1,343,812	583,362	90,616	733,789	8.10	583,362	72,040
CB Total	4,639,853	3,119,876	659,963	3,924,372		3,119,876	524,671

* 5% of commercial quota withheld for harvest reporting uncertainty. Effective commercial quota was 1,865,680 lbs

Percent Reduction:

Estimated reduction by region. All estimates are in number of fish.

Table 4. Estimated percent reduction in harvest for the 2015 fishing season by sector. The coastal and recreational reference harvest estimate from 2013 data since Addendum 4 implemented a 25% reduction from the Amendment 6 quota for the coastal commercial fishery, and state recreational regulations were imposed based on percent reductions estimated from 2013 data, or pooled 2011-2013 data for conservation equivalency regulations. The Chesapeake Bay reference estimates were based on 2012 data since Addendum 4 implemented a 20.5% reduction from 2012 harvest.

Region	Sector	Reference Harvest Estimate	2015 Harvest Estimate	Percent Reduction From Reference Harvest
Chesapeake Bay	Recreational	784,298	610,247	22.2%
	Commercial	659,963	524,671	20.5%
	Subtotal	1,444,261	1,134,918	21.4%
Coastal	Recreational	2,105,069	1,480,306	29.7%
	Commercial	182,541	162,992	10.7%
	Subtotal	2,287,610	1,643,298	28.2%
Total		**3,731,871**	**2,778,215**	**25.6%**

Atlantic States Marine Fisheries Commission

Atlantic Menhaden Management Board

August 5, 2015
3:00 – 4:30 p.m.
Alexandria, Virginia

Draft Agenda

The times listed are approximate; the order in which these items will be taken is subject to change; other items may be added as necessary.

1. Welcome/Call to Order (*R. Boyles Jr.*) 3:00 p.m.

2. Board Consent 3:00 p.m.
   - Approval of Agenda
   - Approval of Proceedings from May 2015

3. Public Comment 3:05 p.m.

4. Update on Draft Amendment 3 Development (*M. Waine*) 3:15 p.m.
   - Ecosystem Management Objectives Workshop
   - Revisiting Fishery Allocation
   - Review Draft Amendment 3 Timeline

5. Discuss Quota Rollover Provision of Amendment 2 (*R. Boyles Jr.*) 4:00 p.m.
   Possible Action

6. Other Business/Adjourn 4:30 p.m.

The meeting will be held at The Westin Alexandria, 400 Courthouse Square, Alexandria, Virginia; 703.253.8600

MEETING OVERVIEW

Atlantic Menhaden Management Board Meeting
August 5, 2015
3:00 – 4:30 p.m.
Alexandria, Virginia

Chair: Robert Boyles Jr. (SC) Assumed Chairmanship: 8/13	Technical Committee Chair: Jason McNamee (RI)	Law Enforcement Committee Representative: Kersey
Vice Chair: Robert Ballou (RI)	Advisory Panel Chair: Jeff Kaelin (NJ)	Previous Board Meeting: May 5, 2015
Voting Members: ME, NH, MA, RI, CT, NY, NJ, DE, MD, PRFC, VA, NC, SC, GA, FL, NMFS, USFWS (17 votes)		

2. Board Consent

- Approval of Agenda
- Approval of Proceedings from May 2015

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-in 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 Chair will not allow additional public comment on an issue. 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. Update on Draft Amendment 3 Development (3:15 – 4:00 p.m.)

Background

- At its May meeting, the Board initiated Draft Amendment 3 which will consider changes to the management program including ecological reference points and revisiting allocation.
- The Board established a working group to aid in the development of issues to be addressed in Draft Amendment 3.
- Staff will provide a progress report on the development of Draft Amendment 3 as well as review its timeline.

Presentations

- Update on Draft Amendment 3 Development by M. Waine

5. Discuss Quota Rollover Provision of Amendment 2 (4:00 – 4:30 p.m.) Possible Action

Background

- Based on the results of the 2015 Benchmark Stock Assessment the Atlantic menhaden stock is not overfished and overfishing is not occurring.
- Amendment 2 specifies the Board may annually define a percent of unused quota to be rolled over for use in the subsequent fishing year if the stock status is not overfished and overfishing is not occurring.
- Any quota rollover decisions by the Board would apply to unused quota at the conclusion of the 2015 fishing year.

Board actions for consideration at this meeting

- Consider Quota Rollover Provision of Amendment 2

6. Other Business/Adjourn

DRAFT PROCEEDINGS OF THE

ATLANTIC STATES MARINE FISHERIES COMMISSION

ATLANTIC MENHADEN MANAGEMENT BOARD

The Westin Alexandria
Alexandria, Virginia
May 5, 2015

These minutes are draft and subject to approval by the Atlantic Menhaden Management Board
The Board will review the minutes during its next meeting

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INDEX OF MOTIONS

ATTENDANCE

Board Members

Terry Stockwell, ME, proxy for P. Keliher (AA)
Steve Train, ME (GA)
Doug Grout, NH (AA)
G. Ritchie White, NH (GA)
Sen. David Watters, NH (LA)
Rep. Sarah Peake, MA (LA)
David Pierce, MA (AA)
Bill Adler, MA (GA)
Eric Reid, RI, proxy for Sen. Sosnowski (LA)
Robert Ballou, RI (AA)
David Borden, RI (GA)
Dr. Lance Stewart, CT (GA)
Rep. Craig Miner, CT (LA)
David Simpson, CT (AA)
James Gilmore, NY (AA)
Emerson Hasbrouck, NY (GA)
Paul Risi, NY, proxy for Sen. Boyle (LA)
Tom Fote, NJ (GA)
Russ Allen, NJ, proxy for D. Chanda (AA)
Adam Nowalsky, NJ, proxy for Asm. Andrzejczak (LA)
Loren Lustig, PA, (GA)
John Clark, DE, proxy for D. Saveikis (AA)
Roy Miller, DE (GA)
Craig Pugh, DE, proxy for Rep. Carson (LA)
Lynn Fegley, MD, proxy for T. O'Connell (AA)
Bill Goldsborough, MD (GA)
Del. Dana Stein, MD (LA)
Rob O'Reilly, VA, proxy for J. Bull (AA)
Kyle Schick, VA, proxy for Sen. Stuart (LA)
Cathy Davenport, VA (GA)
Louis Daniel, NC (AA)
Robert Boyles, Jr., SC (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
Steve Meyers, NMFS
Mike Millard, USFWS

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

Ex-Officio Members

Jason McNamee, Technical Committee Chair
Jeff Kaelin, Advisory Panel Chair
Lloyd Ingerson, Law Enforcement Representative

Staff

Bob Beal
Toni Kerns
Mike Waine
Melissa Yuen
Shanna Madsen
Max Appelman

Guests

Dennis Abbott, NH Leg. Proxy
Ross Self, SC DNR
Stephanie Hunt, NOAA
Michelle Duval, NC DMF
Alexei Sharov, MD DNR
Dan McKiernan, MA DMF
Shannon Green, Lenfest Ocean Program
Jeff Deem, MAFMC
Dave Gedra, CCA
Rob Allen, CCA
Bryen Stacks, CCA
Jack Travelstead, CCA
Tom Ferrugia, House Cte on Natural Resources
Shaun Gehen, Omega Protein/Gehen Law
Ben Landry, Omega Protein
John Landers, Omega Protein

Nick Sterrett, Omega Protein
Ken Pinckard, Omega Protein
Ron Lukens, Omega Protein
David Fralk, Kelly Drye, DC
Adam Ferrer, Natl. Audubon Society, DC
Amy Price, Ocean Conservancy, DC
Christine Hopper, Ocean Conservancy, DC
Jim Price, Chesapeake Bay Ecological Fndtn.
Cindy Bishop, CBEF
Patrick Paquette, MSBA
Clint Waters, MSSA
Aaron Kornbluth, PEW
Jennifer Warner, PEW
Lora Clark, PEW
Jim Edlam, PEW
Ken Hastings, Mason Springs Conservancy
Marin Hawk, MSC
Drew Minkiewicz, KDW
Jimmy Kellum, Kellum Maritime
Wendell Lee, UFCW Local 400, VA
Lionel Waddel UFCW Local 400, VA
Michael Newten, UFCW Local 400, VA
Marius Cockrell, UFCW Local 400, VA
Irwin Ball, UFCW Local 400, VA
James Stanck, UFCW Local 400, VA
Gary Kelliher, UFCW Local 400, VA
Tony Owens, UFCW Local 400, VA
George Ball, UFCW Local 400, VA
Hilton Laws, UFCW Local 400, VA
Ryan G. Swan, UFCW Local 400, VA
Carroll Diggs, UFCW Local 400, VA
Ralph Coleman, UFCW Local 400, VA
Jim Heman, UFCW Local 400, VA
Jeffrey Abbott, Weems, VA
Erik Bank, Silver Springs, MD
Jamie Pollack, Shark Angels, NY
Paul Greenburg, NY, NY
Ken Hinman, Wild Oceans
Benson Chiles, Chiles Consulting
Chris Moore, CBF
David Monti, RI Saltwater Anglers Assn.
Travis Baran, RI Saltwater Anglers Assn.
Arnold Leo, E. Hampton, NY
Meghan Lapp, Seafreeze, Ltd
Robert Brown, MD Watermen Assn.
Paul Eidman, Menhaden Defenders, NJ
John Bello, VA Saltwaters Sportfishing Assn., VA
A.J. Erskine, Reedville Menhaden, VA
Caitlin Lang, PCJ
Kirk Brown, Burgess, VA
Michael Thomas, Burgess, VA
Keith Mason, Newport News, VA
Rob Gutknecht, Weems, VA
Joseph Weldon, Yardley, PA
Robert Crockett, Richmond, VA
Allen Russell, VA
Jerry Morris
William Taylor
Raymond Kane, CHOIR

The Menhaden 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 8:00 o'clock a.m. by Chairman Robert H. Boyles, Jr.

CALL TO ORDER

CHAIRMAN ROBERT H. BOYLES, JR.: Good morning, everyone. My name is Robert Boyles from South Carolina Department of Natural Resources. It is my privilege to chair the Menhaden Management Board. I want to welcome the board members here, welcome our guests. Members of the Public, we appreciate every one of you being here.

We appreciate your interest in the deliberations of this board and the work of the Atlantic States Marine Fisheries Commission.

APPROVAL OF AGENDA

We have before us a couple of things before we get started in earnest; the first of which is an approval of the agenda. The agenda was distributed as part of the briefing materials. Are there any additions to the agenda? I will see it is an ambitious agenda. Mr. Kaelin.

MR. JEFF KAELIN: Mr. Chairman, it is an ambitious agenda, but there is also no research planning in this discussion today. I wondered if there could be some time at the end of the meeting to talk about a research program for menhaden, because it is not on the agenda.

CHAIRMAN BOYLES: Sure, Jeff, we'll consider that. We'll see what time allows, but certainly in bounds. Any other additions or suggestions? Seeing none; any objection to adopting the agenda? Seeing none; the agenda is adopted.

APPROVAL OF PROCEEDINGS

CHAIRMAN BOYLES: Also in your briefing materials were proceedings from February 2015, which were also included in the mail-out. Any corrections, additions or otherwise edits to those minutes? I see none; those minutes are approved as presented.

PUBLIC COMMENT

CHAIRMAN BOYLES: Now the time on the agenda for public comment; and let me say here at the beginning, I again appreciate the vast turnout from all of you here who are interested in Atlantic menhaden management. I see a number of you have visual aids. I would just ask that in the course of the deliberations and public comments that you be respectful with those visual aids, please.

We have a lot of stuff to go through, a lot of things to talk about and a lot of interest. Again, we appreciate your being here and appreciate your presence. What we would like to do with public comment now is take public comment on those items that are not on the agenda. I have had one person who has requested an opportunity to speak at this time. Mr. Hastings, if you would come to the public microphone and give us your brief comments.

MR. KEN HASTINGS: I think I've been doing this too long. The first thing that I remembered about this process that we've been going through for seemly forever is back when localized depletion was a big deal, so that kind of puts me where I belong in terms of the age spectrum. You never really did anything with localized depletion.

It just sort of died and I don't think you ever even came up with a definition for localized depletion. I was also at the Baltimore meeting. I didn't get a shirt then. I was kind of disappointed because I got there last; but I got here early today and I have a shirt; so I'm starting off the day really happy with the way things are going.

I was happy at the Baltimore meeting because actually for the first time that I can remember some conservation issues came to the front, superseded the boom-year dollar value of these fish, and I was happy about that. That happiness didn't last very long because right behind that was the 6,000 pound bycatch allowance. I went, whoa, wait a minute, now, what is this all about; it didn't even count toward the target.

Imagine how I felt a month or so later when I discovered the bycatch allowance for one year was going to go up to 12,000 pounds. We still didn't know what we had. I also went to the Georgia Annual Meeting where people showed up; and I thought we're really presenting a mea culpa moment, because he said, you know, we kind of screwed up.

For all those years we caught menhaden we weren't reporting and we didn't know how many we caught. We probably reported a whole lot less than we did; and that is hurting us now because the commission has established a TAC based on what we reported; and we'd like a do-over. We'd like an opportunity to improve on that record. That was supposed to happen the following winter; but it didn't happen.

At that time it was decided to wait for the compliance reports. This is something that has always puzzled me is why, since people had voluntarily said, you know, our compliance reports aren't very good, we don't know what we're catching, we don't know what we're releasing, we don't have any handle on bycatch at all, and suddenly the compliance reports were very important to some people but they're not for me. Hopefully, things are going to get better. I'm happy to be here today. I'm happy to look around and see that the majority stakeholders have showed up in force. I'm looking forward to this. Thank you.

CHAIRMAN BOYLES: Thank you, Mr. Hastings. For those of you who are waiting to hold your comments for specific motions that the board will be considering, what I would ask you to do – again, we've got a very ambitious agenda. Deke Tompkins is there in the back. What I would ask those of you to do – again, we have gotten a number of comments.

What I would ask those of you who are representing groups or similar perspectives, if you could, in an effort to ensure that your points get across, sign up with Deke. We will try to call on you as motions are made. If you could designate a spokesperson or two to represent your particular perspective, it would be very helpful to the board and would help us in our deliberations.

If you are so inclined to make public comment after motions are made, would you see Deke Tompkins. I have neglected a request from Executive Director Bob Beal. I apologize to our new members, but we do have a number of new faces around the table. I will call on Executive Director Bob Beal to make some introductions.

EXECUTIVE DIRECTOR ROBERT E. BEAL: I introduced a lot of folks at the Lobster Board Meeting yesterday, but there was a much smaller crowd in the room than we have now and not all the commissioners were around the table. I just want to go over a few introductions just so everybody knows the new faces around the table. We have Senator Brian Langley from Maine, who is back at the commission. He was here before and now he has returned; so, welcome, Senator Langley.

From Massachusetts, David Pierce is sitting here as the new Acting Director of the Division of Marine Fisheries Service. Paul Diodati retired on April 24th; so David is here in a new capacity. Welcome, David, and congratulations. From Rhode Island we have Eric Reid, who is a new proxy for Senator Susan Sosnowski.

From New York we have Paul Ricci, and he is a new proxy for Senator Boyle. From Maryland we have a new legislative commissioner; Delegate Dana Stein. We have two new staff members that are in the room, Max Appelman and Megan Ware. Max and Megan have recently started at the commission. They're both new staff members, new FMP coordinators. Feel free to introduce yourself to them whenever you get a chance. We also have Craig Pugh, who is an ongoing proxy for Representative William Carson. I think that is all the new faces around the table.

CHAIRMAN BOYLES: Thank you, Bob; and to our new members, welcome. We're glad you guys are here. We can certainly use a lot of wisdom and perspective so we appreciate your presence today.

BIOLOGICAL ECOLOGICAL REFERENCE POINT WORKGROUP REPORT

CHAIRMAN BOYLES: We will move right into our agenda; and the first item is the Biological Ecological Reference Point Workgroup Report; Jay McNamee.

MR. JASON McNAMEE: My name is Jason McNamee. I work for the Rhode Island Division of Fish and Wildlife. I'm also a member of the Biological and Ecological Reference Point Group as well as the Menhaden Technical Committee. I've got a report here that will cover our March 26th meeting.

Just to refresh your memory a little bit, the last time I was here speaking before this group, we had ended our presentation with this table. Across the top of this table were a number of potential goals or objectives for dealing with menhaden in an ecosystem framework. Down the left-hand column there were a number a tools that we were looking at to get at those types of reference points.

At the end of that meeting, what the working group – so it is the BERP I'm referring to and I'll just call them the working group from here on out. What the working group was tasked with doing is looking at the single-species model; so specifically the Beaufort Assessment Model, the BAM Model, and looking at that in the context of looking at forage services with that.

It got a little more specific after that meeting and we were asked to look at the BAM Model in the context of the Lenfest Report; so that is the Pikitch et al paper from 2012. As we made a note in the ERP Report, all of these models and ecological reference points that we were looking at in that report were going to require further work by the working group.

What I mean by that is we had come up with a number of tools that thought we could use, some shorter term, some longer term; but there were a number of tools that we could use. Based on the goals and objectives that came out of the board, we could then dig a little deeper and review these in more depth. At our meeting we reviewed the methodology in the Lenfest Report. The first task that we covered was to figure out which information tier – these are the categories that are set out in the Lenfest Report to look at your forage species and categorize it.

Then there is a set of rules that go along with that; so the first step is to figure out which information tier your species is in – in our case that is menhaden. We did that and then what we did subsequent to that was to evaluate the applicability of the recommended management actions in the Lenfest Report associated with that information tier.

Some of the findings from our work – a couple of the report recommendations from the Lenfest Report – the first is based on the fact that forage species had variable stock dynamics. Because of this variability that is inherent in these forage species, the Lenfest Report

recommends a more precautionary management for these types of species.

It also assumes a stock-recruit relationship. What I mean by that is the notion in the report is if you leave more fish in the water, you have a better chance of not having that population decline dramatically in a short amount of time. What we interpreted that to mean is that there is an underlying assumption that there is a stock-recruit relationship. If you leave more fish in the water, the chances of having a good recruitment event is higher.

We looked at the report and we looked at the information that we had; and what we did was we classified menhaden as an intermediate information tier. We did this with strong caveats, which I won't outline here but were in our report from this meeting. What the intermediate information tier recommends is that the management actions will have the form of applying a Hockey Stick Harvest Control Rule.

What that does is it says your biomass limit is going to be greater than or equal to 40 percent of your unfished biomass; and when you are above that biomass limit, your fishing mortality reference point will be half of your natural mortality. I'm going to get into a little more detail on these two recommendations from the report.

The first is that fishing would be prohibited when biomass levels fall below 40 percent of unfished biomass; so what you're looking up there on the Y-axis is biomass in thousands of metric tons. Across the bottom is year and then you have this biomass limit noted on the chart by this orange line. You can see there were a couple periods of time when we would have had fishing cease in this fishery, including most recently the mid-nineties to the early 2000s.

What the Lenfest Report recommends is that when you drop below that 40 percent of unfished biomass, you cease fishing. The second recommendation is that when biomass is greater than that 40 percent of unfished biomass, so when you're up above the orange line from the last graph, fishing mortality will not exceed half of the natural mortality rate.

On this graph what you have is the mean fishing mortality from ages two to four for menhaden on the Y-axis. The X-axis, again, is year. The orange line on here is this reference point F equal to half of natural mortality. You can see that we are currently below that, so that's good. Just a table of the same information; and to give you a little context with regard to where we are, this table gives you different reference points as well as your terminal year fishing mortality from the most recent BAM assessment.

The first two rows there are the threshold and the target. These are the new recommended threshold and target; so we will be talking about this I think at least three more times today. We will come back to this. The threshold fishing mortality is 1.26; the target is 0.38. The reference point from the Lenfest Report equates to an F of 64 percent of maximum spawning potential; and that is right around 0.29. The very last row there is where we are at according to BAM in 2013; and that is 0.22; so we are below all of these different reference points.

Now I will talk a little bit about the applicability of the Lenfest Report recommendations; and this was what we discussed at our meeting, how can we apply the Lenfest Report recommendations to the menhaden fishery. The first thing that we noted was that there is no defined stock-recruit relationship.

Again, what I mean by that is for the menhaden fishery, with the information that we have, it is difficult for us to determine a relationship between the size of your spawning stock and how many recruits you get. There is a good defined relationship there; and there is no nice

curve to say when you have a lot fish, you're going to get a lot of recruits.

We see the converse in some situations where we have lower biomass, high recruitment and high biomass and low recruitment; so we have difficulty determining if there is a spawner-recruit relationship in this fishery. In addition, in the Lenfest Report the case studies that they looked at, the predators in those case studies were highly dependent.

How they defined highly dependent was that there was greater than or equal to 50 percent of the specific predator's diet that was comprised of that single forage species. What this does is it creates strong trophic effects. If there are issues with the forage species with these highly dependent predators, there are strong trophic effects for that predator.

As well for menhaden, the predators that we are aware of that we have done the most research on, they are more opportunistic. Bluefish will eat menhaden, but they will also eat pretty much anything else that gets near them. No predators of interest are highly dependent on a coastwide and annual scale, in our view, for the menhaden stock.

Now, striped bass may meet this dependency definition, but it is spatially and temporally defined; so we think that they're very dependent on menhaden in the Chesapeake Bay in the winter; but when you're looking at it in the context of the coast-wide stock across the whole year, it is hard to find a predator that is highly dependent per the Lenfest Report's definition.

Our recommendations; the working group does not believe the reference point recommendations in the Lenfest Report are applicable to this system. It is not that they couldn't be applied; but at this point the working group had enough questions with this and we felt the need to do a little more research on it; that we didn't feel that it should be applied in the specific-defined way that it exists in the report to the menhaden fishery.

The working group cannot evaluate if the Lenfest buffers will provide enough forage to sustain predators of interest at desired population levels. Again, what we mean by this is we don't know that simply by leaving more fish in the water that we will be able to maintain a high population biomass, nor do we know what those desired population levels for the predators are.

For those two reasons, we have difficulty in evaluating whether or not the buffers provided in the Lenfest Report would be adequate. All that being said, predator removals of menhaden are a large source of mortality for this stock. We're not saying that it is not; we're not denying that it absolutely is. We're just suggesting that we should go through a little more work with some of the additional tools that we outlined in that very first table that I showed.

Through the framework of the ecological reference point report, the working group is working to have better ERP advice specific to Atlantic menhaden management. We want to continue to investigate the tools that we have available that are more geared towards menhaden and use those for this task.

A couple more conclusions here; and this is at the end of our meeting we started to brainstorm a little bit about how best to kind of move forward to get to the end goal that we all have in common. Our recommendation to the board is that they should consider forming a subcommittee to collaborate with the Biological and Ecological Reference Point Working Group and industry to define more concrete ecosystem management goals and objectives.

In this subcommittee setting, we can identify which the models are the most appropriate to

achieve our proposed objectives and goals. Then, finally, what we would do in the end is combine the recommendations of the subcommittee with those of the Atlantic Menhaden Peer Reviewers to define an objective approach to developing ecological reference points. That is what I have and I'm happy to entertain any questions.

CHAIRMAN BOYLES: Questions for Jay? Rob.

MR. ROB O'REILLY: Thank you, Jay, and I just wanted follow up on a couple of things that you had indicated. I think you started out by talking about a precautionary approach and that more fish in the water means more success reproductively even though, as you talked about a little bit, there is a lack of a stock-recruitment relationship.

If that is a finding, is the best thing that we can do is to make sure that fishing mortality ensures that we maintain a fecundity that is at an acceptable level according to the targets and thresholds that have been set? I have a little follow-up. If you could address that, that that would be great.

MR. McNAMEE: I think that is correct. When I was talking about the notion of leaving more fish in the water, I was talking about more in the context of the recommendations of the Lenfest Report. Kind of the discussion we had at the working group was we think that is probably a very reasonable and logical assumption. We just lack the quantitative way to prove that for menhaden.

The stock-recruit relationship is your classic kind of gun-blast look. There is no good relationship in that information. I don't disagree with what you said at all; maintaining a reasonable fishing mortality and thereby leaving more fish in the water is the approach the board has taken as of Amendment 2. According to the outcome of the assessment, it appears to be effective.

MR. O'REILLY: Very briefly; so the lack of a stock-recruitment relationship and the idea that we have fecundity thresholds and target; would you indicate a little bit of a converse of what you said earlier we're really looking to make sure that there is enough eggs in the water to account for those times when environmental conditions will boost our recruitment? It is probably the same thing you were indicating earlier about more fish in the water, but with the fecundity target and threshold I think, one, would you say more eggs in the water as well with the way we're managing?

MR. McNAMEE: Right; it is a good point for menhaden. It is used in other fisheries as well; but as far as commission species that most of us are familiar with, fecundity is a different sort of metric. That is how we measure – I don't know; the potential for recruitment is by measuring eggs, and the amount of eggs in the water is actually based on a relationship between the size of the fish and the number of eggs that size fish has.

Again, I guess the point working group was trying to make is sometimes you can have a lot of biomass in the water that produces a lot of eggs, but you still don't get a good recruitment event. It is my understanding from what this board did previously during Amendment 2 was you were working under the premise that, well, at least we can leave a lot of biomass in the water and make sure there is a lot of eggs in the waters so that when environmental conditions, and if we believe environmental drivers are what have the greatest effect on recruitment, then we're going to leave that level in the water and hope at some point we're get a good set of environmental conditions to have a good recruitment event.

MR. WILLIAM A. ADLER: Just a question on your report; back when you were talking about predator percentages of what they need; you said something about 50 percent. Is that roughly 50 percent of the total fish need to be

reserved for forage by the predators; was I understanding that correctly?

MR. McNAMEE: The 50 percent is sort of a volumetric type of analysis where we looked at gut contents of striped bass, bluefish, animals like that. The definition in the Lenfest Report has to do with the amount of that individual predator's diet that is comprised of a single forage species. It is not that we to leave 50 percent in the water. It is a definition that says Predator X requires at least 50 percent of their diet to be Forage Species Y. It has to do with amount of their diet, the proportion of their diet and not the amount of population.

DR. DAVID PIERCE: I have on occasion referenced the Lenfest Report and some of the work that I've done in my agency and also with the New England Fishery Management Council. It is a well-done report; many authors with a lot of experience with this particular issue. When this review was done at the request of the board – and thank you for doing it.

I appreciate all the effort put into it – were the authors of the Lenfest Report – you know, little fish/big impact, managing a crucial link in ocean foodwebs – were they present to answer questions and to participate in the debate. I asked the question because now we have a letter from them that challenges the conclusions and recommendations, many of them, anyways, made by your group. Were they involved at all during this review of their work?

MR. McNAMEE: There were no members from the Lenfest Working Group in attendance at that meeting. And just to jump back for a minute, I completely agree with your comments about the report itself. What we did at the working group was to review the report, apply the metrics that are outlined in the report to menhaden, so we did not have any members of the Lenfest Working Group in attendance at our meeting.

DR. PIERCE: If I may, Mr. Chairman, were they given the opportunity to attend, to participate and answer questions for not?

MR. McNAMEE: I don't know.

SENATOR DAVID H. WATTERS: Jay, I have a question about the fecundity and environmental factors, which you briefly alluded to. Is there any indication from your work or from other research that the species' fecundity is potentially being affected by ocean acidification or warming water temperatures?

MR. McNAMEE: I'm not going to answer very directly just because it is not my area of expertise, per se. There is a lot of research on environmental drivers and menhaden recruitment; not only ocean acidification and water temperature but currents; and it is this notion of advection into appropriate nursery habitats and things like that.

There is a decent amount of research on these sorts of topics for menhaden, but it is still early on. There hasn't been a lot of direct work looking – there has been some but not a lot of direct work looking at recruitment specifically and developing environmental covariates into that relationship to see if that explains some of the variance that we see.

MR. EMERSON C. HASBROUCK, JR.: Thank you, Jay, for your report and for the work of the workgroup. I have a couple of questions. Aren't most of the predator-removal needs already taken into account through M in the assessment; and does this suggest that we need to go back and review really what that estimate of M is and revise it in some way? That's my first question.

MR. McNAMEE: In the context of the single-species assessment, the natural mortality vector that we put into the model is supposed to accommodate all of the sources of mortality that exist on that species. That's a direct

answer to your question is that it is supposed to account for all of the natural mortality, predation, getting old, all those sorts of things that aren't related to fishing.

However, a lot of the discussion around menhaden is that's good to account for that degree of mortality; but because it is a forage species with a lot of variability in its stock dynamics, you need to be more precautionary with your assumption about how much mortality you can allow on it in either context, fishing or natural mortality.

The second part of your question; that is precisely what the ERP Group is working on is looking at ways to develop better mechanisms for estimating and accounting for the variability in that natural mortality through time. In the past you had listened to discussions about the MS-VPA. That was a multispecies model.

There is a couple of new multispecies models that are in development right now. All of these things are supposed to not only account for that mortality; but to account for it and its variability through time and fluctuations in predator abundance and impacts to natural mortality and how it relates to that. That is exactly the type of question that the ERP Working Group is looking at.

MR. HASBROUCK: Did the workgroup look at all or investigate the dietary needs of menhaden themselves? I guess my question really is menhaden don't graze just on phytoplankton; they graze on zooplankton as well. Some component of that ichthyoplankton. Is the workgroup looking at what the impacts of increased numbers of menhaden are on other fishes, both forage fishes and predators? Some component of the diet of menhaden is probably comprised of planktonic stages of other forage species like sand eels and bay anchovy as well as predators like striped bass and weakfish. Did the workgroup take that into consideration or have that as part of their discussion?

MR. McNAMEE: The short answer to your question is no; but I will offer that one of the multispecies models that I just referenced a moment ago is Ecopath with Ecosim. It is a coast-wide version. That is a full trophic model; so that would account all the way down to nitrogen inputs into the system. In fact we are, in the longer term, sort of looking at that albeit not very explicitly.

MR. ADAM NOWALSKY: In the absence of the adoption of ecological reference points, we've heard numerous comments from the public directed towards us that we are not fully considering the ecological considerations in the place of menhaden in the ecosystem. Can you respond to that a little bit with regards to what you believe the advice the technical committee has given this board in the past has considered those concerns about menhaden's place in the ecosystem and recommending quotas that we have adopted?

MR. McNAMEE: I will offer you this answer; and that is when the technical committee is developing its recommendations, to this point is doing so in the context of the single-species assessment. We're looking at menhaden, its population dynamics, and offering recommendations that account for its population dynamics and its ability to be sustainable through time.

During Amendment 2 I think it was the board who adopted a different approach and not going strictly by the assessment results – we didn't have a very good assessment at that time – and build in buffers or what you felt was precaution to account for that. In the context of the technical committee, we're providing advice per our task explicit to the single-species assessment in the context of one species and its ability to be sustainable.

MR. TERRY STOCKWELL: Jason, I'm just curious about the timeline for the working group to complete your analyses and provide final

recommendations to the board and technical committee.

MR. McNAMEE: I don't have a good answer for that. What I will suggest is right at the end of the presentation we offered a potential mechanism for at least moving forward in the short term to begin to itemize out these objectives and goals that we need in order to begin to set concrete reference points.

At the same time, we had a couple of good presentations given at our meeting on some of the tools that we have in play. In particular there was a report on the statistical multispecies model that I gave as well as an update on the Ecopath/Ecosim model. I think we actually put a timeline in the report. I don't recall what it is. It is not way off in the future, but certainly not ready today.

MR. WILLIAM J. GOLDSBOROUGH: Mr. Chairman, I feel the need to echo Dr. Pierce's reference to the Lenfest Forage Fish Task Force letter that we all have; because it is co-signed by a well-respected fishery scientist from the University of Maryland, Dr. Ed Hood, who co-chaired the task force.

I do want to note and thank Jason for his comment that their intent is not to reject this approach out of hand but to continue to study it further. I do think and I think others will agree, if they read this letter, that it offers a lot of promise actually for us. I do think that a lot of us around the table at the February meeting were urging the consideration of this approach so that it would give us more latitude at this meeting to make some management judgments given that it was the only approach to ecological reference points that the analysis in the assessment said was ready to go; so we could get some kind of guidance about how we can account for menhaden's role in the ecosystem and yet move forward with decisions about the quota, perhaps. But given that we have this report from the BERP Workgroup, I think it ties our hands quite a bit with respect to that. I would encourage us to continue to give strong consideration of this approach.

MS. LYNN FEGLEY: I hope this will be a quick question. I'm looking at the target and the array of target fishing mortalities that you guys outlined in your table. It looks to me like the recommended target coming out of the assessment is F 57 percent, which represents now what appears to be the median fishing mortality rate through the time series on ages two to four.

It looks as though the Pikitch et al, if you applied that, you would come to the conclusion that we should fish at F 64. My question is did the workgroup discuss or do any projections? I'm curious about the difference between those two levels. If you were to fish at F 64 versus F 57, did the group do any projections to look at the impacts of fishing at those two levels on fecundity, biomass or assessment? In your opinion would there be any measurable difference between those two levels of fishing mortality?

MR. McNAMEE: Yes; the direct answer to your question is we did not run projections on the Lenfest reference points; only on the reference points that came out of the peer review recommendations, so we did not project. I think it is relevant to your question as well to jump back to the previous question. I showed the graphs.

We did look at the Lenfest and analyzed those reference points relative to our current stock status; so we did complete the task. We looked at them per the task and showed you where we were relative to them, what those reference points look like. I feel like we did complete the task. I make that comment to the last statement in this letter that we received.
Also, I have a profound amount of respect for Dr. Hood. I think he is great. I don't know Dr. Pikitch as well. I think we could have had a

more collegial discourse over this than how it appears through this letter. I don't think we are terribly at odds with the Lenfest Report. However, we had to kind of focus in on the task that we were given. I feel that we did that.

We also took the step to provide our recommendations on what we felt about those and the applicability of those. That was what I just presented. All that being said; directly back to your question, we did not project. Therefore, it is difficult to say what the impacts of the Lenfest-derived reference points would have on the population.

MR. O'REILLY: Mr. Chairman, I just want to make sure; it looks like Jay is going to talk about the review of the biological reference points coming up; and so at that time I'll have some questions and Jay can help out.

CHAIRMAN BOYLES: I think Jay will make himself available to your questions, Mr. O'Reilly. Further questions from the board for Jay. From the AP Chair, Mr. Kaelin.

MR. KAELIN: We've talked about the BERP process, which was a public process; many others participated in it; it was a very open process. Thinking about the development of new models, multispecies models and so forth; my question is about the MS-VPAX Model, which has been under development for so many years and what I understand to be kind of the inability of that model to produce repeatable results in the BAM estimate of M, too, kind of following on to the question that was asked earlier.

Even though that is the case, didn't the BAM model also develop some enhancements to better understand menhaden's role in the ecosystem through things like the north/south components of fleets and young of the year and adult indices and so forth? It is not like that it was done in a vacuum. In fact, I think isn't the BAM model robust to many of those considerations by better understanding the environment that the menhaden are in and where the resource is being harvested and so forth? What happened to the MS-VPA X estimates in the BAM process?

MR. McNAMEE: The MS-VPA; let me step back one step briefly and say in the past for the Beaufort Assessment Model, we actually populated the natural mortality vector with the output from the MS-VPA. That's how we incorporated time and age-varying natural mortality for menhaden.

The reason why we abandoned that approach for this recent benchmark is we found it is not that the MS-VPA was not repeatable. It is repeatable as a stand-alone model. What we found, though, is it started to produce biomass trends and things like that that were different than the single-species versions for those different species.

That is why we felt it problematic to apply that natural mortality vector or matrix, really, to the BAM Model anymore because they were giving two different answers as far as what your biomass trends are for your important species in that model. That hopefully answers the MS-VPA part of your question. I'm very proud of the assessment. I think we made an enormous amount of improvements to it. The fleeting by area I think was very progressing.

It accounts for not necessarily any of the mortality aspects, but of the differences in the fisheries along this north/south gradient. I think that was a major improvement in this model. In general, we improved the model I think pretty much in every regard. We did also test it and found that it is robust to things. Some things it is more sensitive to; all of that is outlined in the assessment report. I think I answered your question somewhere in there.

MR. KAELIN: Yes; I appreciate the response on the MS-VPAX, because I wasn't really sure how that was used, but it was used to tune the

Lorenzen estimates that you also made, I think, or something like that. We'll hear more about that later.

CHAIRMAN BOYLES: Jay, thank you for a great presentation and some very good answers to some very good probing questions. We did have a request to comment on this from a member of the public who wanted to speak on ecological reference points. We are already behind schedule – I would like to move that comment towards Agenda Item 8; discussion of next steps. This takes us to our next item on the agenda from Mike Waine, which is the FMP Review for 2015 and state compliance reports.

FMP REVIEW FOR 2015 AND STATE COMPLIANCE REPORTS

MR. MICHAEL WAINE: My name is Mike Waine; I'm the fishery management plan coordinator for Atlantic menhaden. I'm going to walk the board through the 2014 fisheries' performance. The intent here is to give everybody an idea of how 2014 went before the board considers specifications for 2015 and beyond. This report was in the supplemental materials.

Where we are right now is in Amendment 2 – we implemented that in 2013 – that established the current TAC that we're using, about 171,000 metric tons until completion of board action on the next benchmark assessment. That happened in February. We have an episodic event set-aside that is for the New England states when menhaden occur in higher abundance than normal.

We've allocated this TAC based on landings' history. We have transferability, a bycatch allowance and a reduction to the Chesapeake Bay Reduction Fishery Harvest Cap, as well as some improved timely reporting and biological monitoring. A couple of additions; the board extended that episodic event set-aside program through this year. They also included a reallocation provision to reallocate what was left over to the states if it wasn't used.

In February of 2014 the board passed a motion to manage cast nets under this bycatch allowance. Remember, the bycatch does not count towards the TAC. Let's review where we are with reference points for a minute. Back in 2011 through actually Addendum V to Amendment 1, we implemented a change to the fishing mortality reference points.

That change was a maximum spawning potential of 15 percent as a threshold and 30 percent as a target. Those were relevant to the status at that point, which was F 8 percent MSP. Fast forward to two grueling long years of a stock assessment subcommittee and working through everything that they did, we produced the 2015 benchmark assessment that recommended new reference points.

That was a peer-reviewed recommended geometric mean F ages two to four. You're going to hear a little bit more about that in Jay's presentation next. Ultimately that is leading to a new threshold and target. The threshold is 26 percent MSP and the target is 57 percent MSP. Then there is matching fecundity reference points that are associated with those fishing mortality targets and thresholds.

Using the new recommended reference points that came out of 2015 assessment, the stock is not overfished and overfishing is not occurring. We are still using interim reference points while the ecosystem reference points are being developed. That was language that was included in Amendment 2; and that is still currently where we are.

Let's get into the performance of the fishery. As I mentioned, our TAC is about 171,000 metric tons. Our total harvest, excluding bycatch, was slightly underneath the TAC, about 1.5 percent increase from 2013. Bycatch this year increased from last year, up to 3,000

metric tons, approximately. It represented 1.8 percent of the coast-wide harvest; but remember that does not count towards the TAC.

In terms of performance, we're just underneath the TAC again this year; but in terms of total harvest, if you included that bycatch in it, we are slightly over the TAC. By fishery, the reduction harvest was just over 131,000 metric tons; a very marginal increase from 2013; and a 17 percent decrease from the last five-year average.

The bait harvest was just over 37,000 metric tons. That is a 7 percent increase from 2013 and a 21 decrease from the last five years. This is just a graphical representation of the landings' history for this fishery going back to 1940 through the current year of 2014. You can see in the blue line that landings historically have been much higher for the reduction fishery and have since leveled out at a lower level. The bait fishery has increased in more recent years; and then through the TAC has been decreased in 2013 and 2014.

Remember that bait reporting has improved so that factors into some of this landings' history as well. Let's talk about the bycatch. In 2014, as I mentioned, bycatch increased 60 percent from 2013; so more fish being landed under this bycatch allowance. You can see this table represents the bycatch pounds by state. It also shows the gear types that were being used.

Once again, a large number of bycatch coming out of the Chesapeake Bay Region of pound nets and gillnets. We also had some bycatch in the Mid-Atlantic and a state in New England and in the South Atlantic as well. Bycatch being used – remember the board went through action to treat the cast net fisheries under the bycatch allowance, and so that is represented in this table as well.

In terms of analyzing this a little further, we've got a bulk of the bycatch trips landing less than a thousand pounds. We have a 6,000 pound bycatch allowance, but not a lot of trips are harvesting that amount. A bulk of these bycatch trips are for less than a thousand pounds. We took this a step further. This is relatively a later request on my behalf as plan review team chair.

I was reading through the proceedings from last year and picked up on the board wanting to see more information about these bycatch trips. This table represents the percent – these are bycatch trips only; so trips that were deemed bycatch in the compliance reports. It represents the percent of menhaden that were caught on that trip relative to all other species.

This is summed across all gears and across all trips just to give the board an idea that on these bycatch trips a lot of what is being harvested is menhaden. I will update that table before we finalize this report. Thank you to the states that were able to turn that around quickly for me. In terms of the episodic-event set-aside, we had one state that declared participation in 2014.

That state harvested less than 300,000 pounds; so not a lot of pounds landed under the set-aside. The unused set-aside was then reallocated to the coastal states on November 1st. In terms of the quota performance, this table breaks down what each state landed in 2014 towards the quota. It also shows any overages that occurred. We had two states that had overages, Rhode Island and New York.

There were no quota transfers that have existed up until this point to cover those overages. The way that the Menhaden Amendment 2 is written, states are responsible to pay back those overages if they don't receive transfers to cover them pound for pound the following year. In terms of reporting, New York has monthly reporting, but has the capability of requiring weekly reporting if needed.

They had a quota overage in 2014; so the PRT is making a recommendation that the board

consider more timely reporting in New York. Rhode Island had an overage but it occurred because basically as they were going to close their fishery, a lot of pounds got landed at the very last minute, and that was the reason for their overage. It wasn't a reporting issue, per se.

All other states implemented timely reporting to track their quotas. Amendment 2 also required bio-sampling to occur based on the amount of pounds that are landed by state. This was so that we could provide length-and-age information so that we could have a more robust stock assessment. This information proved very useful for the 2015 assessment and will also prove useful moving forward. The good news here is that all states were able to meet those bio-sampling requirement.

I will also update the board that we had a Menhaden Aging Workshop recently in which a lot of the states sent members of their agency to the Beaufort Lab so that we could learn the best aging practices for menhaden. As we pick up this bio-sampling coastwide, we want more people to be able to age these fish so that we can get these samples in a timely manner and not rely specifically on the Beaufort Lab for that sampling.

We did have a CPUE Index requirement. This is another requirement we put in Amendment 2. The intent behind this was to get more information into the stock assessment. If you remember, the last iteration of this stock assessment relied solely on a fishery-dependent index coming out of the Potomac River.

The idea here was if we're using that index, can we use other indices from other areas? The stock assessment subcommittee did a huge vetting of all data sets available to them in this 2015 assessment. They decided not to go with fishery-dependent indices and have said go with fishery-independent. This is survey data specifically.

Our fishery is moving so quick, Amendment 2 had this requirement, but the stock assessment didn't end up using those specifics in 2015. In terms of the reduction fishery harvest cap in the Chesapeake Bay, this was also reduced when we reduced harvest through Amendment 2. In 2014 they harvested approximately 45,000 metric tons. That was well underneath their cap of 98,000 metric tons, approximately; and so for 2015 the harvest cap gets that rollover again for that 98,000 metric ton cap.

De minimis for menhaden; the states of Maine, New Hampshire, South Carolina, Georgia and Florida have requested that for the 2015 fishing season. All states have met that because their bait landings in 2014 did not exceed 1 percent of the total coast-wide bait landings. As a result, the PRT recommends that those states be granted de minimis status. J

Just to remind the board, de minimis exempts those states from collecting biological samples of age-and-length samples I was talking about earlier. Even though it exempts a lot of these states, a lot of them are still collecting those samples. They don't have a lot of landings to really require them to collect them, anyways, so that is really the only exemption that occurs through de minimis status.

In terms of wrapping this up, the PRT recommendations are to accept the 2015 fishery management plan review for menhaden and to consider a reporting time frame for New York; consider the 60 percent increase in the bycatch landings – this bycatch allowance is obviously becoming more popular – and then also consider the de minimis requests as just stated. Thank you, Mr. Chairman; I'd be happy to answer any questions.

CHAIRMAN BOYLES: Thank you, Mike. Questions from the board for Mike? Mr. White.

MR. G. RITCHIE WHITE: Excellent report as usual, Mike. The report starts out using metric tons; and then when we get into the tables, it

switched to pounds. I understand the reasoning for that, but it would be helpful for me if you could also show metric tons next to the pounds to kind of keep those numbers in perspective to the overall total.

MS. FEGLEY: Thank you, Mike. I feel compelled to put two things on the record for the state of Maryland. One is I just want to say again that the only gear in our state that is allowed the 6,000 pounds is pound nets. The gillnets operate on a 1,500 pound bycatch. I also wanted to say that when we submitted our bycatch report, pound nets are a stationary fixed gear.

It is an opportunistic gear that collects whatever passes through at the time. When a school of menhaden passes by a pound net, the percentage of menhaden in that gear will be very high. The fishermen cannot necessarily anticipate when schools of menhaden are going to pass through; and they can't take down and deploy their nets to avoid that.

The only thing they could do is roll those menhaden out. In some cases that will result in high mortality. My point is that from a pound net perspective, to consider the percentage of bycatch only on the days when menhaden are landed is a little bit – we need to be careful how we interpret that.

We would argue that the bycatch is a function of the season in which the net is there; because the fishermen are making money off of other fish like striped bass and catfish, perch, bluefish. Those are the money fish. I just want to put on the record that if you were to look at the percentage of menhaden in our pound net landings during the time those pound nets are under the bycatch allowance; that number drops to 63 percent.

MR. ROBERT BALLOU: One comment and one question. My comment is just that with regard to the episodic-event set-aside, I think you characterized the landings at about 300,000 pounds as not a lot. That's true relative to the overall size of the set-aside.

However, for a state like Rhode Island, which did opt in and did take advantage and did in fact land those pounds; that is four times the amount of our quota. It remains a very important program for the states in New England and certainly for Rhode Island. I just want to note that for the record.

The second question I have is with regard to transfers, Rhode Island is one of two states that did have an overage. Ours was very slight, and thank you for your characterization as to how it occurred. We have a well-managed program, and the overage occurred in the one day prior to the actual closure of the fishery that had already been enacted.

I know discussions are in place as we speak with regard to states that had underages to try and rectify that for 2015. I just read Amendment 2 and I don't see any indication in Amendment 2 about deadlines or time frames for working through the transfer provision. My question to you, Mike, as FMP coordinator, is this something that needs to happen at this moment or at this meeting or perhaps later today in terms of state discussions to try to resolve the overage issue?

MR. WAINE: Yes; there is no specified time frame for the transfers. I think it is up to the board if it is acceptable to them to allow for a transfer to occur at this point. There is nothing in the plan that prevents that. I think the sooner the better just because we're quickly wrapping those 2014 fishery performance and proceeding through this agenda into 2015. That is all I'll say about that.

MR. DAVID SIMPSON: I think in everything we, do the bycatch and how we manage it is going to be important going forward. I wanted to understand better the Table 1 results, which is

the state-by-state performance with their quota. I'm not clear how much consistency there is among states and what is counted toward the quota and what is not.

We in Connecticut simply count everything, even though all of our fisheries are very small, toward the quota; and then if we reached the limit, we would continue to implement our 6,000 pound trip limit, which is what we have. I heard Lynn mention that they have a smaller bycatch limit for certain gears.

I guess the example for me would be New York to help understand how they had an overage and what constituted an overage. It probably didn't happen late in December. They probably saw it coming, but I'm also suspicious or suspect that not much of that catch came at quantities greater than 6,000 pounds; so in a sense a lot of it would not be an overage but could be considered bycatch. Can you help me with that and maybe Jim can help after.

MR. WAINE: The way Amendment 2 treats bycatch, it defines it as any trip that captures menhaden after the directed fishery has been closed. Up until the point in which a state closes its menhaden fishery, all those pounds count towards the quota; and then pounds landed after the fishery is closed count towards bycatch.

Now, one step further is that addition that the board made back in 2014 to treat cast nets under the bycatch allowance. The change there was everything that I just told you except cast nets, anything landed by that gear counts towards the bycatch allowance regardless of whether the season is open or closed.

CHAIRMAN BOYLES: Jim, do you want to add to that?

MR. JAMES J. GILMORE, JR.: Am I next, Mr. Chairman, on the list?

CHAIRMAN BOYLES: Actually you are.

MR. GILMORE: Okay, good, and I will take advantage of both. Instead of adding to that because it really goes right into my theme about what we're spending too much effort on maybe is I'll start with Ritchie's comment. We clearly need to have the same set of units. Just so you know, Ritchie, there is a great app you can download; the metric ton converter.

If you take the 171,000 metric tons and you convert that to pounds, it is 377 million pounds. There is our TAC. Now I have a 200,000 pound overage, which I think is a 20th of a percent. Getting to the real point of we can consider weekly reporting, whatever, so I'll quickly get to shutting my fishery down on this pittance of an amount; I think we can get into the detail about how we're tracking this, but I think we really need to stay a little bit higher up on should we even be tracking this.

MR. SIMPSON: I'm still trying to understand how big New York's problem is. If that 200,000 pounds came in after the quota was filled, as Mike described it, did all of that come in at over 6,000 pound blocks or were they two and three and 4,000 pounds blocks, which to me would be bycatch and not count as an overage.

MR. WAINE: Melissa is putting up a bycatch trip analysis just to show you that there were very few bycatch trips that landed in excess of 6,000 pounds. This is all states combined. I do have this analysis by state; but because of confidentiality issues, I wasn't able to show that. Essentially this captures the trend by state for the bycatch.

MR. SIMPSON: So this table for New York would be very enlightening. In other words, were any of their trips among the 103 that landed over 6,000 pounds? My understanding of the amendment would be that unless they were, they would not count as an overage. Does New York have an overage or not? I suspect if they do, it is very, very small. They have some trap nets that might catch more

than 6,000, but I don't think their gillnets or cast nets are doing that.

MR. WAINE: Jim, please correct me if I'm wrong, but I think the issue here was the directed fishery for menhaden was not closed early enough; and so there were pounds landed before that fishery closed that resulted in the overage as defined in Amendment 2.

Even though likely these fisheries were the same fisheries that were occurring while the fishery was open and after the fishery closed as well; I think this was a logistics' issue in terms of tracking the quota and closing the fishery in enough time to stay within the quota as defined in Amendment 2 before those pounds started counting towards the bycatch allowance. Does that make sense, Dave?

MR. SIMPSON: Yes; I think so; it is beginning to sound like if New York had a rule and implemented if it said it looks like we caught our quota, we're at 6,000 pound trip limit; if they did that, then none of this would have counted as an overage.

MR. GILMORE: Yes; and recall what we did and why we're in this pickle was that we didn't have mandatory reporting in 2011; so this thing evolved and we were not having good compliance. That has been ramping up so we're sort of basing what we're doing on harvest on the previous year.

Every year it has gotten better, so, yes, suddenly we're seeing that the directed fishery is higher than what we thought; and it looks like it is going to be higher again this year. We're probably harvesting somewhere in the vicinity of one to two millions pounds in that fishery, and now we're getting the data to verify that; but unfortunately we have a moving target trying to manage this.

DR. PIERCE: Massachusetts has been very careful with regard to how we manage our state share of the menhaden quota. As a consequence, the way we have proceeded we have had an underage, not a grand-scale underage but enough in amounts that we can consider reallocating to some other states – transferring to some other states.

This is just a point of information especially in light of Bob Ballou's point about transfers. By the end of Thursday we will have continued our discussions and concluded our discussions certainly with Rhode Island and other states that may not have approached us yet to work out some transfer provision that will account for all or maybe some of those other states' overages.

CHAIRMAN BOYLES: Dr. Pierce, thank you for that. That actually got to a question I had for staff if we could handle that through letters and still will be available to help you with that. I think, Bob, that will help Rhode Island with their situation. Mr. Grout.

MR. DOUGLAS E. GROUT: A question and a comment. Jim, have you been seeking transfers to account for the overage?

MR. GILMORE: We just found out about the overage from Mike last week; so, yes, we were going to take Dr. Pierce up on his offer. In his new role, I'm sure he will be very gracious.

MR. GROUT: The follow-up comment about overages and when the payback should occur; clearly, I think we should have the accounting done before the next fishing season so that we know what your quota is going to be for the following fishing season. That may be something that we have – I realize there is nothing in the plan right now that says that, but it may be something we want to think about for a follow-up management action to try and put some boundaries on this.

MR. DAVID V.D. BORDEN: Mr. Chairman, I'd like to thank Dr. Pierce for assisting us with the

overage in Rhode Island. I think it is totally appropriate that as his first official act as the acting director he bail out his good friends to the south. A couple of points on bycatch – and this goes back to Jim Gilmore's comment.

We have what a view as a fundamental problem and it goes back to the original allocations that were made in the state quota system. I realize this is a point for a question, so I'll just make this very brief; it is just a statement. We're not going to solve this problem until we go back and readjust the original quotas.

If you have states like Rhode Island and New York that have very small allocations and they have gear types that literally catch the quota in one day, it is almost impossible to manage that – for a state agency to manage that. I think the resolution of not only Rhode Island's problem but New York and a number of the states is we have to go back and do some adjustments on the state allocation formula. The second point I would make is that the bycatch allowance, if I understood Mike during his presentation, he said it does not count towards the quota; is that correct?

MR. WAINE: Correct.

MR. BORDEN: Okay, so I've pointed this out before; to me it is just like a disconnect in the logic here. All landings, as far as I'm concerned, should count towards the quota. That is just something that we have to fix in the plan. Thank you.

MR. O'REILLY: I have a different question; but first I want to ask is there a possibility that we can move forward with some type of structure or some type of workgroup at some time to look at bycatch. It has been a mess since we talked about it in December of 2012. We know how that went; 6,000 pounds was after many other ideas were formed. We've had problems since then; Florida, New York reporting, Florida dipnet.

The history is there. It says we should really talk about it. Lynn Fegley's comment about the pound net is a real good comment. As concerning monitoring, unless you have daily monitoring, which I don't think anyone has daily monitoring very well, you can really get in trouble fast. I know that in Virginia, even though we can project, without daily monitoring you can only project so much. We went over; it does get subtracted from the 2015 quota about 190,000 pounds. Things happen quickly and we really need to talk about this as a complete part of the plan rather than a side part.

My question, if I may, though, is on aging. Mike, I guess I appreciate your report, but I'm not sure where things. I know there are collections made. I know there was a workshop. We talked to Dr. Jones and Dr. Liao at Old Dominion University about ten days ago. They are wondering what the schedule is going to be for as we go forward with aging. I think they're just archiving samples that had been collected by VMRC at this time. Is there a plan to move forward with some type of aging protocols as far as numbers of scales to aged, number of otoliths to be aged, whatever the currency is going to be?

MR. WAINE: We're currently finishing up that aging workshop report. The workshop report will detail the procedure for handling the fish, collecting the scales, aging those scales, walking through the whole procedure. It also is going to identify like the agencies that were in attendance. We plan to work with those agencies to determine their comfort level with aging the samples on their own based off of this protocol that was established at the aging workshop.

As part of that discussion we will also identify the time frame in which they think they can fit this into all the other age samples that they have to look through for the other species. The

short answer is there will be a follow-up for the aging workshop report.

MR. STOCKWELL: Mr. Chairman, as Mike's presentation indicated, Maine had very low landings last year. I would be happy to contribute the balance of our extraordinarily large quota to Rhode Island and New York. We can talk after the board concludes.

CHAIRMAN BOYLES: Further questions from Mike on the fishery review for 2014? All right, this is an action item and we're looking for a motion. Dr. Daniel.

DR. LOUIS B. DANIEL, III: **Move we approve the compliance review, and my intent would be to include those de minimis requests, Mr. Chairman.**

CHAIRMAN BOYLES: All right, motion by Dr. Daniel. Second by Mr. Adler. Discussion on the motion? Any objection to the motion? **Seeing none; that motion carries**. Let me read it for the record. Dr. Daniel moved to accept the 2015 FMP Review Report and approve the states of Maine, New Hampshire, South Carolina, Georgia, and Florida for *de minimis* status for the 2015 fishing season. Dr. Daniel made that motion; Mr. Adler seconded. The motion passed with no objection.

TECHNICAL COMMITTEE REPORT

Let me just give the board a time check. It is 9:30 by watch. We are a little behind; and we have a number of guests here who I know are very interested in our discussions. I just ask you to help me keep us on board and on time, please. We will go back to Jay for the technical committee report.

MR. McNAMEE: This is another presentation. This one focuses now on the BAM Model and projections that we ran in relation to the biological reference points. Just by way of outline, I will hit on two things in this presentation. I'll try to move along relatively quickly here as well. We're going to go over the recommended biological reference points.

REVIEW OF BIOLOGICAL REFERENCE POINTS

MR. McNAMEE: You've seen these already a couple of times, so we'll try and tick through those pretty quick, but keep in mind that what we're talking about with menhaden is fishing mortality and fecundity. The fecundity is what we used instead of a biomass reference point. Then the second half of the presentation, we will go over the projections. We looked into some risk analysis with these projections, the risk of exceeding the F target and threshold under various scenarios.

Just by way of background, the current reference points – so these are the currently established reference points for the menhaden fishery – are not applicable with the results of the most recent assessment information. What the technical committee did was we proposed new reference points in the stock assessment report.

At your February meeting you tasked the technical committee to go back and review the peer review report. At the time we had recommended – and this was keeping aligned with what we had recommended previously, but we said at that age two is what we should use for our fishing mortality reference point.

The reason for age two is the bulk of the harvest is coming out of that age class, so we thought that was a logical way to develop the fishing mortality reference point. However, the review panel recommended grabbing a few more ages; and their recommendation was based on the fact that your fishery can change; so to account for the fact that selectivity may change through time, they suggested we use a geometric mean fishing mortality for ages through four.

We thought this was a good idea so we agreed with that recommendation. Given the recommendation from the review panel, what we using is a maximum spawning potential based reference point; and it is determined using the years from 1960 to 2012. Within that time frame, we are looking at the minimum and the median value of MSP.

The fishing mortality rate, as just mentioned, is going to be the geometric mean of ages two through four; and then the associated fecundity reference points goes along with these F's here; so that is F 26 percent of MSP, F 57 percent of MSP and then the analogous fecundity reference points with those fishing mortality reference points.

The bottom line of the determination is that the stock is not overfished and overfishing is not occurring relative to these recommended reference points. Here is another look at the information in a table. You have the threshold amount, which is the 26 percent of MSP. That is 1.26. You then have your target, which is 0.38.

You can see that F in 2013 is below both of those, 0.22. It equates to roughly an F of 70 percent of maximum spawning potential. To along with that, your fecundity threshold is roughly 87,000 eggs. The fecundity target is almost 190,000 eggs. The fecundity in 2013 is – I'm sorry, billions I think, actually. In any case the level in 2013 was 170,000.

Here is a graphical look at the same information. Mean F at ages two to four is on the Y-axis; near across the bottom. Your target is the orange line; the threshold is the blue line. You can see we are below both. The same with fecundity; the blue line is again your threshold; the orange line is your target; and we are just below the target but above the threshold.

REVIEW STOCK PROJECTIONS

MR. McNAMEE: This is going to talk about now the setup for the projections. I'm moving from the reference points into the projection discussion. In 2014 the TAC was roughly 171,000 metric tons. The duration of the projections were short term. We went from 2015 to 2017. The reason for this is it maintains at least one age class that we have information on in the assessment through the projection.

Once you get beyond 2017, you're relying on the projection-estimated recruitment so things tend to stabilize after that and adds some uncertainty into the analysis; a lot of uncertainty. We did six runs using a constant harvest approach; and then we did one run using a constant F approach in the projections, so seven projection scenarios were done altogether.

Just to run through these; I'll go through these real quick. This is sort of a tough slide. The average catch from 2009 to 2011, prior to the implementation of Amendment 2, would have been roughly 213,000 metric tons. Then what each projection beyond that does up to number five is it scales it back by some proportion.

First, if it was 5 percent lower than that, average catch is roughly 203,000 metric tons; 10 percent is run number three; 15 percent is run number four; and then number five is sort of your status quo approach, and that is at 20 percent reduction; and that is what we did with our last management action.

Number six is a little bit different; and what that does is it looks at what your total allowable catch would need to be in each year up to 2017; so that in 2017 you're achieving a 50 percent probability of hitting your F target. That is a constant catch approach, and it is looking out at the 2017 year to gauge what your catch needs to be. Number seven is developing a TAC in

each year that has a 50 percent probability of achieving your F target.

The difference between six and seven is Run 6 is going to have a single catch that gets you to some level in 2017. Number 7 is going to have different catches in each year, because what you're trying to achieve is a static F through time and not a static catch. Here is a table that is looking at some of the risk associated with the runs one through five, so these are your constant catch strategies, scaling your catch back from your average catch during that reference period of time.

I won't go through the whole table, but what you can see is in all cases you have at least a 50 percent chance of exceeding the F target in your first year, but then it scales back after that; and that has to do with the dynamics of how the projections are run. The very top one, which would be status quo, puts you right at about 50 percent in 2015 but then drops back to only a 23 percent in 2016 and only a 3 percent chance of exceeding the F target.

You can see how all of the different scenarios interact with the reference points. The table down below is the interaction with the threshold; and the takeaway from that table is all of them have only a very small chance of hitting the threshold. A little more detail on the projections. That was projections one through five.

Here is projection six. This is a TAC that has a 50 percent probability of achieving the F target in 2017. That was roughly 247,000 metric tons; and so that TAC would be held constant for a three-year time period. Then down below is your risk associated with that so; so a pretty high risk of exceeding your target in 2015 with that. Then it scales back to 50 percent in 2017. The percent risk of exceeding your F threshold is lower.

The final projection; this is the one where you're going to have a variable quota through time. The TAC has a 50 percent probability of achieving the F target in each year. What you can see in Year 1 you'd have a TAC of 173,000 metric tons, so just a little bit above what we had in 2014 for a TAC. Then it goes up from there, 224 and then 266,000 metric tons in each subsequent year.

The risks associated with that are in the two bottom rows. All right, a couple of caveats here; the projections are highly uncertain. If you looked through the report on this, you can see the wide bounds around these projections because there is a lot of uncertainty. One of the main sources of uncertainty that we have are that we didn't include any structural uncertainty into these projections; so this would be the process error associated with the stock assessment model.

We did not account for that in the projections. The projections are also conditional on a set of functional forms; so for selectivity and recruitment we make a choice and then move those choices forward in time. Of those choices that we made for our projections don't end up being correct, that adds uncertainty into those estimates.

In addition, the fisheries were assumed to continue at the current proportions of total effort using the current selectivity. What that means is if the proportions – if more gets harvested by the bait fishery in the north relative to the reduction fishery in the south proportionally, that is going to change the outcome of these projections because the projections that we did held those as they are now static through time.

A few more projection caveats; if future recruitment is characterized by runs of large or small year classes possibly due to environmental or ecological conditions, these will affect the stock trajectories that we have outline here in our projections. Our assumptions about recruitment and what

happens in reality have a strong influence on what your projection information would be.

In addition, the projections apply to the Baranov Catch Equation; and so this assumes that fishing – the time step in the Baranov Equation is a year, so it assumes that fishing mortality is occurring throughout the year; so if management gets more complex with seasonal closures and things like that, this will impact the outcome of the projections.

I think this also showed up in Mike's presentation, but here is a look at the current allocations per Amendment 2. I'm sure you're all fairly familiar with those, but you can see a small proportion of the harvest is allocated New York north. Most of it is happening in New Jersey south. There will be a quiz on this table at the end so be sure to memorize all those numbers.

All kidding aside, this just breaks out into a question asked earlier. Because we manage in pounds, the body of the information in this table is in pounds, just to make everyone aware. Metric tons is across the top; and the reason that is across the top is so you can see which scenario you're looking at here. I'll wait another minute to let you take a peek at your state and where you end up under these different scenarios, and then I will bounce to what is the final slide which shows the final projections, the same information.

Here is Projection 7 – and we can flip back at any point during your questions and deliberations. But here is your Projection 7. This is the one where the quota changes in each year; and here is how that breaks out for the different states. That is my final slide and I am happy, Mr. Chair, to take any questions.

BOARD DISCUSSION OF TECHNICAL COMMITTEE REPORT

CHAIRMAN BOYLES: Jay, again, thank you for a yeoman's job with this. Again, I remind the board where we are schedule-wise. We're a little behind time so I will ask for questions on Jay's presentation. Dr. Daniel.

DR. DANIEL: Can you give some direction of the uncertainty or is it just all over the place?

MR. McNAMEE: Yes; it goes in both directions, because it depends – for instance, recruitment, if you have a run of low recruitment, your projection will be less conservative. If you have a run of high recruitment, it will be more conservative. It goes in both directions. There is no easy answer to figure out which way the risk is.

MR. O'REILLY: I have a few questions, but I'll be polite and try and do one now and maybe you can call on me later. Jay, you already answered one of my questions. We had a brief discussion about the Lenfest situation and the projections from that fishing mortality rate. You noted that it is about 70 percent is where we are now if we look at an MSP value.

That is even higher than Lenfest or the 57 percent that is promoted through the peer review process. I would guess that if we looked at exploitation, it might even be a wider gap between Lenfest and the 70 percent because this is fishing mortality. I didn't see the exploitations, but that is fine. I do want to ask you, though, from the analysis there is such a buffer between the threshold and the target. It has always been there. I've never understood this. I've always been kind of amazed.

I've looked at a number of species of somewhat similar life histories, different life histories for the MSP. But even going back to Amendment 1, that buffer has always been large for menhaden. You have to look really hard, and I haven't found a species that has that type of strategy.

Put that aside; do you think the analyses that have been done, if there is a constant catch situation – and you've promoted a few of them in constant F – would you think we would be varying around the target, and that is about it given the constant catch, given the experience that everyone has been through with the assessment and through the peer review.

Is that a safe assumption to think that with the constant catch we would be varying around a certain F, a little bit above maybe the target, a little bit below? I think that is pretty classic is the way it has been described to us before about having a target.

MR. McNAMEE: I agree with your statement. I think based on the selections we made for the projections, the outcome is that – you know, by design – that based on the scenarios that we presented you're going to vary around your target in a distributional way. The central tendency of the projection is that 50 percent value, and that's what we kind of used to gauge and produce those constant catch scenarios. I think what you said is correct.

MR. ADLER: Two tables you have here; Table 6 and Table 7 – I think you've got 7 up there now – and I'm trying to understand that on Table 6 it looks like if the metric ton numbers were increased from 170 or 171 to 181 to 192, whatever; that the various state allocations would go up based on what the total TAC goes up to; and yet on Table 7, are we assuming that if you stay at 171,000, that the – it looks like the allocations in 2015, '16, and '17 will go up as well.

I just wanted to know on Table 7; is that given the TAC that we have now and that it would go up in 2016 and '17; and what is different in Table 6 is that this one requires us to raise the total allowable catch up to some number above 170. Could you explain which is different here; what is going on?

MR. McNAMEE: A good question and I should have maybe approached it in this way. In Table 6, what you're looking at are your individual runs from projection number one. The first column there with 170,800; that is your status quo projection, so that was a single projected run. Each of these only get a single column because we are holding the catch constant throughout the three years of projection; so 170,800, that is the status quo. 181,475; that was I think your 15 percent reduction. Each column represents a single run.

The difference with Table 7 is this is a single run; and the reason why we had the single run in a stand-alone table is because the catch increases in each year to go after that 50 percent of the F target. It depends on the metrics. The table in the previous slide is you're going to pick a catch number and run that forward in time for three years. In the second table you're trying to achieve an F target in each year; so it goes up in each year. I don't know if that was helpful at all, but I hope so.

MR. BALLOU: Jason, I'm looking at Table 2 in your report. I understand that the probability of exceeding the F target decreases over time because of the recruitment assumptions within the projections. I know that because that's exactly what the report says. My question is as you look at the probabilities, they're relatively high in 2015 and then they decrease in '16 and '17.

Does it therefore follow that if any potential increases in the TAC were delayed a year; that the risk would decrease or would it just simply push the three-year analysis or the two-year analysis that may be out. Do you understand my question? I'm trying to see how we might avoid high-risk decisions and perhaps settle on lower risk. It almost looks like that if we just waited a year, the '16 and '17 percentages risk levels are much lower. Am I misreading this and is this just about simple model exercises and not reality?

MR. McNAMEE: It is a good question, Bob, and I understand kind of the notion that you've proposed. However, the most reasonable way to accomplish what you're talking about, say we waited a year, what we would do is try to look at the most recent information and rerun the projection, and it may just produce the same table over again. This is the risk according to the selections we made for the projections' static. If we wait a year, the environment changes, the projections will also change; so it is more complex than that. Simply waiting a year won't necessarily decrease your risk.

DR. PIERCE: You were very careful with regard to the listing of why the projections are highly uncertain; so I appreciate that. It is always good to know how uncertain the projections are. Regarding the uncertainty, I've got a question that relates to Table 2 and Table 3, Projections 1 through 5.

You make a very important point; you and your group make a very important point about recoupment. You highlight that you used median recruitment with the variability based on historical recruitment; but then you make a very important statement after that.

You say that this means that using median recruitment with historical variability ultimately results in higher levels of recruitment in the projections than recently observed. My question is what have we recently observed and to what extent do those recent observations perhaps counter or diminish the accuracy of the projections that we have been given?

MR. McNAMEE: Yes; very good observation and it was very much why we added those comments explicitly in the report. The most recent period of time, towards the terminal end of the stock assessment time series, there has been lower than average recruitment. That is why we presented it in this way.

It is a judgment of risk as to whether you think that will propagate forward at a low recruitment level or whether you think you're bound to have some more median level or perhaps high level of recruitment sometime within the next three or four years. It is a judgment of risk, and we have no empirical way to judge that.

As I mentioned, the reason we're using median with deviations around that median for the projections is because we don't have a stock-recruit relationship like I talked about in my first presentation today. That is sort of the idea. I think I'm just reiterating what you were asking, but it is a judgment of risk and it depends on what you believe the new current state will be in the next couple of years will determine what you feel the actual risk is in these projections.

DR. PIERCE: Just one quick follow-up; what years, then, have the lower recruitment, 2013, '14; can you give us the recent years when we've had this lower levels of recruitment?

MR. McNAMEE: I'm a little hesitant but I'll give it a shot. I wish I had Joe Smith sitting to my right, who could come up with the dates immediately. I feel comfortable saying the most recent two to three years going backwards in time had the lower than median recruitment; but then prior to that there were a couple of years in the last five to ten years where we had a higher degree of recruitment; again, according to the stock assessment model.

It is not that we're relying on recruitment events that we haven't seen since the sixties. There have been some more contemporary larger recruitment events. However, in the most contemporary period of time, the last couple of years, recruitment has been lower.

SENATOR WATTERS: Jay, this kind of follows up and getting at another way what Bob was asking a few moments ago about Projection 6 and 7 and the probability of risk assessment

there. Can you offer any further guidance on selecting this 50 percent number of risk?

I mean, can you offer some guidance as to how accurate selecting that number may have been when you're making calculations for other fisheries or could you in some ways even project backwards into this fishery if you made that 50 percent risk assessment, whether it would have been good guidance for us. I'm just wondering how much confidence we can place in that 50 percent, if there is any other way we would know from other times that has been used in other fisheries.

MR. McNAMEE: That is a good question. I hesitate to offer a specific example because I'm afraid I'm going to pick the wrong one. This was a big discussion in striped bass recently; and they used it for striped bass. There was a lot of discussion – I may get far afield from your actual question so I'll –

CHAIRMAN BOYLES: Senator Watters, allow me, if I could, I had some conversations with staff. Recall our conversations in February where we talked about this do-loop between our technical advisors and this board that sets policy. I would submit to the board and to your question; that this question of risk is a question of policy. Jay, I don't want to put words in the technical committee's mouth, but I think this is one of those things that we have to set and have a very vibrant and full discussion about what is the appropriate level of risk, what are our management objectives and how do we want to get to it. Just grant me the chair's prerogative to just take us back to this room in February; I think it is one of the things that we have before us as we talk about where we go in menhaden in 2015. Yes, sir.

SENATOR WATTERS: If I may follow up on that; I guess my takeaway from that would be that I remain kind of skeptical about Projection 6 or 7 in lieu of not having had that discussion.

MR. SIMPSON: I'm going to continue on the same vein as the last three folks. The concern is the understandable use of median recruitment. Am I right; that was the only projection that was done? It wasn't the last three to four years of recruitment and projecting that forward; is that right? Then I want to follow up.

MR. McNAMEE: That's correct; we made a single choice on how we were going to treat recruitment.

MR. SIMPSON: Okay, and I'm not sure what years were used to calculate median recruitment. It looks like it might be 1960 to 2012; is that right? Again, I'm looking at the stock assessment and I'm not sure I have the right tables; but there is a Young-of-Year Index. When I look through that, there is periods in the seventies where that value is in the ones, twos, threes; I think even fours. Then you get to the last three years and it is 0.23, 0.23, 0.28.

My concern is with these projections that we're putting an awful lot of faith and hope that recruitment will get forwarded ten times better is my sense; at least four time better; and then when we project that forward, we can all have higher stocks and higher yield. I'm very concerned about that. Of course, that is integral to this calculation of risk and 50 percent probability. You really do have to buy into going forward we're going to get much, much recruitment than we've seen in the last few years.

MR. NOWALSKY: Projection 7 that contemplates a constant F includes the note the TAC would change each year. Was that note specific to the values included in the table and suggestive that we would set hard values potentially today for each of the next three years or is the suggestion that the TAC would change based on updated information that the technical committee would provide us each year in order to keep a constant F; and if so,

when would that information be available to the board and the states for usage?

MR. McNAMEE: The projections that we ran were – I think in the scenario you're talking about; that was based on what is the TAC that gets us to a probability of having – the highest probability of having F at the target; 50 percent probability. That is how those numbers were developed. I think that is a board decision as to the frequency of when we'd be updating and things of that nature. This is a static projection scenario offered to the board to consider to make their determinations.

MR. NOWALSKY: And if the board went in a direction of something more dynamic on an annual basis; what time of year could we expect that information?

MR. McNAMEE: I think you're thinking about we let harvest occur – the way that this would – we wouldn't necessarily – the only thing we could change just in the projection would be what the harvest actually was; and we could rerun that. I don't know how valuable that would be because everything else would be static from 2013.

I think the root of your question is when would you do an assessment update or benchmark or something like that. I certainly don't think we could pull that off this year. The benchmark for this took a couple of years, so I think you can judge the ability for us to kind of crank on this model again based on that.

SET ATLANTIC MENHADEN SPECIFICATIONS

CHAIRMAN BOYLES: Jay, again, thank you for a very comprehensive presentation. We are going to move now in – we are still behind time and we're going to go right to Mike for reviewing and setting menhaden specifications for final action.

PROCESS OVERVIEW

MR. WAINE: I just want to take a quick minute to clarify to the board what is at stake here in terms of working with Amendment 2 to set specifications. Amendment 2 allows the flexibility for the board to set a total allowable catch only in 2015 or over multiple years. It could go both ways. It is for the board's decision in one year or have the same TAC for multiple years.

Then the other thing that I wanted to mention is that the board can use the best available scientific information that was presented to them to base that specification decision on, so basically all the information that Jay has presented to the board this morning. Thank you, Mr. Chairman.

ADVISORY PANEL REPORT

CHAIRMAN BOYLES: Jeff, the AP Report.

MR. KAELIN: The AP met via conference call on April 10, 2015, to review the results of the benchmark stock assessment and peer review as well as formulate recommendations for the fishery specification-setting process. The list of panel members in attendance is in the report dated April 22nd. There were two members of the AP who were not on the call, Ken Hinman from Wild Oceans and Dave Sikorski from CCA-Maryland, both of whom provided written comments to you.

Relative to the assessment, the AP members reviewed the results of the benchmark stock assessment and independent peer review. They applauded the stock assessment subcommittee for its hard work and completing a stock assessment that is more comprehensive and passed favorably with the peer review.

Generally, the AP commented that the results of the assessment matched what they're seeing on the water. An AP member asked what reference points are used to manage other

small pelagic fisheries around the world and stated that it appears that the single-species reference points as recommended by the peer review are very conservative.

Additionally, it was mentioned that stock-recruitment conditions seemed to be driven by environmental factors as indicated on the fecundity plots. There was some concern expressed that managing to the reference points may not yield the expected results. If, however, environmental conditions are right, the menhaden spawning stock biomass should aid in recruitment.

It was also discussed by the AP that the new peer-reviewed reference points of F 26 MSP threshold and F 57 MSP target already equate to ecosystem reference points since the projections are conservative and should ensure that adequate forage remains in the water as estimated by the new assessment through two natural mortality estimates that produced age-varying time-constant values scaled to estimates from the tagging data. This came from one of the graphs that we looked at from the assessment overview that Mike provided.

Some AP members stated that the implementation of Amendment 2 and the quota is likely not the cause for the increase in the improved stock status. The change in the assessment data inputs in the models were larger drivers of change in the stock status than management since the quota was put in place a couple of years ago.

An AP member that submitted comments indicated that although the stock is not overfished and overfishing is not occurring based on the new assessment, the role of menhaden as prey is vitally important and the abundance of younger fish is currently low from recent years of poor recruitment. Further, the need for ecosystem reference points still exists.

Relative to the development of the ecosystem reference points, AP members agree that stakeholders, managers and scientists need to also agree upon the multispecies management approach; and there was some concern that the management process is not currently set up to handle that type of an ecosystem approach.

One AP member referenced the Mid-Atlantic Council's Ecosystem Management Guidance Document and commented that it suggests keeping it simple by making sure the single-species approaches are robust before adding ecosystem complexity. That document was distributed to the AP and the technical committee.

An AP member who also submitted comments highlighted the need for an addendum to institute ERPs. Generally, the AP concluded it is interested in being involved in the continued development of ERPs. Relative to the specification recommendations, attending AP members were in favor of multiyear fishery specifications to avoid large swings in the TAC.

The AP recommended a three-year specification so choosing a TAC that would remain in place through 2017. The AP commented that it is easier to make business plans with a stable TAC for a three-year time period. The 2015 fishing year is nearly underway and the industry is awaiting these specifications.

AP members commented that this poses significant business challenges when they don't find out about the specifications until May within the fishing year. AP members further commented that the industry would be underfishing relative to the new single-species target reference point of F target 0.38. Also based on projection results, there is less than 5 percent chance of overfishing with all of the TAC levels that range from 170,800 metric tons to 213,500 metric tons.

As a result, AP members on the call recommended at least a 213,500 metric ton TAC, which is the 20 percent denouement plus-up. As a result, AP members on the call would also prefer a TAC level that maintains fishing mortality at the new F target or approaching it as preliminarily estimated the result in a higher TAC than 213,500 metric tons.

AP members commented that they wanted to see the projections at the target, and they were disappointed that the projections from the new assessment had not yet been made available to the public, making it difficult for the industry to coalesce around a scientifically derived yield from the fishery during the next three years. One AP member that submitted comments recommended that keeping the existing catch limits in place and supported keeping the existing catch limits in place; and instead of adjusting the quota, focus on long-term ecosystem goals. That ends my report. Thank you.

BOARD DISCUSSION OF
ATLANTIC MENHADEN SPECIFICATIONS

CHAIRMAN BOYLES: Thank you, Jeff, chairman of the AP. Questions for Jeff about the AP report? I see none. Here we are on the agenda item review and set specifications for the fishery. What I'd like to do is take a motion. Dr. Daniel.

DR. DANIEL: I have given this a lot of thought. I have given staff a copy of this; and, Mr. Chairman, if I get a second to this motion, I would like to comment on it further. **My motion would be move that the commission maintain the coastwide TAC at 170,800 metric tons for 2015 to promote conservation; and initiate Amendment 3 to the Atlantic Menhaden FMP to establish ecological reference points to provide for predators; set a new coastwide TAC based on these new ecological reference points for implementation in the 2016 fishing season; and review state allocations as required by Amendment 2**.

CHAIRMAN BOYLES: Motion by Dr. Daniel; second by Representative Peake. Louis, let me ask you a question; and maybe this is a question for Mike; Amendment 3 or addendum? Mike, can you clarify the difference or, Louis, do you –

DR. DANIEL: I intend with an allocation discussion it to be an amendment. It would be Amendment 3.

CHAIRMAN BOYLES: Okay, that is the motion and it is seconded. What I would like to do, if it pleases the board, is I know there are a number of people in the audience who have come here for this discussion and for this presentation. What I would like to ask our members of the audience is I'd like to take at this point two comments in favor of the motion and two comments in opposition. I would like to have them alternate, so what I would like to do is have someone to speak from the public on behalf of the motion to be followed by someone who is not in favor of the motion. The first person I have on the list, Mr. Travelstead, are you in favor or opposed to the motion?

MR. JACK TRAVELSTEAD: In favor.

CHAIRMAN BOYLES: Would you come to the public microphone, please? Actually, Jack, as you're coming up, let me go to Bob Beal, please.

EXECUTIVE DIRECTOR BEAL: Mr. Chairman, just quickly, I think a point that may need to be talked about after the public comment is this amendment versus addendum issue. It is going to be, frankly, impossible to get an amendment done to affect allocation in 2016. Through the amendment process, we have to have scoping, a round of public hearings on scoping and then draft the document and then a second round of public hearings.
Given that we're almost halfway through this calendar year, we won't be able to pull that off

for 2016. Not to speak in favor or against the motion, it is something that the board is going to have to talk about a little bit is should these issues be separated or kept in one document through an addendum or – you know, as Dr. Daniel said, allocation is a big deal so you may want to take the time to through the amendment process. It is up to the pleasure of the board, but just of controlling expectations that 2016 is going to be tough if not impossible to pull off through an amendment.

CHAIRMAN BOYLES: Thank you, Bob. Mr. Travelstead, a brief comment in favor of the motion.

MR. TRAVELSTEAD: Thank you, Mr. Chairman, for the opportunity to comment on the motion. I am Jack Travelstead speaking on behalf of the Coastal Conservation Association. The association fully supports the motion. For as long as I can remember, this management board and its various management plans for menhaden have acknowledged the ecological importance that menhaden play up and down the Atlantic Coast.

There have been a number of discussions over the last 30 years about doing something to protect that ecological role; but something has always gotten in the way. Perhaps in the early years it was the lack of science that prevented the board from doing something. More recently there seems to be concerns about the status of the stock, and that became a distraction.

Today you have a new benchmark stock assessment before you that while it doesn't present a stock in perfect health, it presents the best picture that you have seen on menhaden in decades. I'm hoping that you will view today as a unique opportunity to once and for all finally move forward in addressing the ecological side of the equation that menhaden presents.

Your own peer reviewers who looked at that benchmark stock assessment encouraged you to proceed immediately with the development of ecological reference points. I hope that you do that, but please don't get wrapped around the axle in thinking that in some short period of time you have to come up with a very sophisticated model to address ecological reference points.

There is now a lot of science out there like the Lenfest Report that this board can use to make an informed decision on how to address the ecological side of the equation for menhaden. Based on a little bit of past experience, I know that this board is capable of doing that over the next year. We certainly hope that you will pass the motion to finally move forward with ecological reference points. Now, the motion also speaks to maintaining the current coast-wide cap and we support that aw well.

You've heard the report of the technical committee and the risks associated with changing that cap. You've heard members around the table express concerns about the level of risk based on the levels of recruitment that were used to come up with those projections. We share those concerns, but we also think you should maintain the current TAC this year for a very simple, logical reason; and that is changing the harvest level now could ultimately affect the outcome once you have ecological reference points established.

It seems you would be putting the cart before the horse if you change harvest this year. We would prefer that you establish the ecological side of the equation first and then let the appropriate harvest levels flow from those ecological reference points. We think that is very logical. We have no objection in the future if harvest goes up as long as the setting of those harvest levels is tied back to the ecological reference points that you will ultimately and hopefully set by this time next year. Thank you.

CHAIRMAN BOYLES: Thank you, Mr. Travelstead. I look to a member of the public who would wish to speak in opposition to this motion. Ken Pinkard, please come to the microphone and identify yourself for the board.

MR. KEN PINKARD: Good morning, Mr. Chair. First of all, I would like to thank you for allowing the opportunity to address this board and express our concerns. My name is Ken Pinkard with Omega Protein in Reedville, Virginia. My father's father and my mother's father both were commercial fishermen.

I'm also a member of the United Food and Commercial Worker's Union, Local 400, headquartered in Landover, Maryland, which represents the employees and the fishermen down in Reedville, Virginia. The commission has had a lot of data before you in the last year. I have looked at a lot of it and I applaud you being able to be able to get through it and understand it comprehensively; but I need to add the human element to it.

I'd like to ask – first of all the yellow shirts, I brought them for a reason; I would like for you to stand. The reason I'm asking them to stand is because two years ago, in 2012 – this number is here by design – in 2012 I had two busloads come before this room and I am sure some of you remember. The number that is standing is how many were laid off after the decision of this board in 2012.

We accepted that decision because we had to; but we also accepted it with the understanding that this commission would take the best available science and revisit this issue. When the best available science came out in February, it was encouraging to know that the science is there that would allocate us 20 percent back; to put that equal amount of people back to work in 2015 and not 2016.

What my ask is is that in consideration we have a gentleman out there, 25 years old, Michael Newton, this is his second year of fishing. This is my 31st year of fishing. I want his generation to have the opportunity to earn a decent living and have benefits. If the science was not there that I couldn't justifiable – I know your decision is not based on human factors; but I also know on how this board is consisted of every state of being represented either through the legislators, through governor appointees and through agencies.

There are groups like the Chesapeake Bay Foundation and CCA and I respect what they do and how they do it; but there is no one that has more concern about the Chesapeake Bay and this Atlantic Coast than these commercial fishermen. That is our livelihood; that is our bread and butter. We're not going to do anything or overdo anything that we think would hurt us down the road. I think the science has come in. I applaud the technical committee for taking the time and really doing their research; but I also think it is time for us to have our 20 percent back to put these folks back to work. Thank you.

CHAIRMAN BOYLES: Thank you, Mr. Pinkard. I'm looking for someone to speak from the public in favor of the motion. Mr. Sikorski.

MR. DAVID SIKORSKI: Mr. Chairman, thank you. Members of the Board; my name is David Sikorski. I am the Chairman of the Government Relations Committee for CCC Maryland; also a member of the Sport Fish Advisory Commission in Maryland. Every time I stand still and raise my hand, I get another little title or a volunteer position. I'm here as a volunteer on behalf of CCA recreational fishermen. The guys from CCA Virginia have also asked me to speak on behalf of them.

I can gladly say me too to Mr. Travelstead's comments and then follow up with some of my own to give you a little bit more of a regional perspective. I'd also like to supply a little bit of the human element of the recreational fishermen; because this system that is built

around these fisheries' management and especially for menhaden is managed – we're here trying to manage commercial catch for the most part, how much harvest we can take and we leave behind.

A lot of times what gets caught in the mix and what is really hard for a lot of our recreational fishermen to even wrap their heads around or even commercial fishermen, you know, folks that sit behind me here, is all these numbers and we kind of get overwhelmed. I always gravitate towards that big-picture approach because I think it is where most of our fishermen lie.

It is where a lot of the frustration lies in the recreational fishing community. You watch the arguments online and wherever else and the frustration lies is we're big-picture people. We don't understand the details; but with my involvement in fisheries' management I respect the amount and the level of detail, the science, and the task in front of this board and then the managers.

It really falls to the managers at this point. We have some science and we have some needs. Here in the Chesapeake Bay, in this region, the issues with recruitment and abundance are the biggest issues that I think connect directly to our fisheries. This board, the members here, the ASMFC has made the decision to decrease harvest of – or decrease mortality of striped bass for I hope to bring back their abundance.

We know that striped bass rely on menhaden for a large part of their diet. But it is not just simply a striped bass versus menhaden relationship. That two-species relationship would be no better than a single-species model. It speaks to the difficulty of even finding the model that can explain the ecosystem.

In general, I think what would solve some of our problem is a big-picture approach towards ecosystem-based management, and that is why it is important that I see it in this motion. As I said, menhaden are an important food for striped bass; but they're not the only species. There are species coastwide that rely on them; and because we do have a large abundance or large biomass, it is important. It is good that there is more fish out there, but there is not enough yet.

We have more fish in the water and we need to keep those fish. Public comment on this issue was nearly 100 percent in favor of conservation, of not increasing the limits. That is what this motion does 100 percent. If you attach it back to striped bass, 85 percent of the coast-wide public comment was in support of the measures you took on striped bass.

How can you support the striped bass without support leaving those menhaden in the water? It is tough to analyze jobs and figure out where the impact is; and I know nobody around this table wants to ever put a single person out of work and it is never the intent of anybody from CCA or any recreational community to try and pick a winner or loser. I fall under the mentality that a rising tide can raise all ships, and I think that is important, especially with this forage species; and we should look at that and think about that as we manage here.

It is again why we support conservation and leaving the cap where it is. There is a lot of folks behind me, recreational fishermen, charter fishermen, where an abundance of menhaden in certain areas really supports their jobs.

I did some recent lobbying efforts on the Hill with folks and I was lucky enough to join somebody who was a marine trades' representative; and she told me something that really stands out every time I'm on the water. It is seven recreational boats equals a job; and so with an abundance of menhaden comes an abundance of predator species and everything

else that relates to jobs. It is just one more piece of that puzzle; seven boats equals a job.

As we deal with the whole complexity of trying to build a model, you know, we know menhaden are important and we know they're important different times of the year; can their natural mortality number in the stock assessment take care of that issue? No, we can't analyze this stuff with a level of certainty.

There is always the unintended consequence; and what species are taking up the slack? The questions that have been in front of this commission for a long time with regard to weakfish is something that must stand out in our heads. I mean, why do we have such issues? Maybe it has something to do with the lack of menhaden abundance.

Ultimately, status quo, which is what this motion recommends, is the most reasonable solution right now. We have an opportunity to take care of everybody's problems, dig into the allocation issues, make it right for the states and provide for that beneficial economic impact that all local communities throughout this coast really need and that menhaden have been a major driver of over the years. Again, we have more fish now and we need to keep those fish there because they can support all. Again, a rising tide can raise all ships. Thank you very much.

CHAIRMAN BOYLES: Thank you, Mr. Sikorski. I'm looking for a member of the public who wishes to speak in opposition to this motion. The next person I have on the list is Greg DiDomenico. Greg, do you wish to speak in favor? You wish to designate Mr. Landry. Mr. Landry, come forward and identify yourself for the board, please.

MR. BEN LANDRY: Good morning, Mr. Chairman and Commissioners. Today you have a big decision to make. Before I get into the prepared comments, I would simply just add that I think this particular motion is perhaps best split. My name is Ben Landry with Omega Protein. I would suggest that this motion is perhaps better split into two; one that addresses 2015 harvest levels and a second motion that would discuss the opportunity that you guys seem to moving toward, which is initiating an amendment to discuss ecological reference points and future state allocations.

The current stock assessment that you guys have at your disposal is perhaps the most comprehensive and well-developed stock assessment that menhaden has ever seen. I think it provided a snapshot at the population that you certainly did not have in 2012 when uncertainty was not a barrier to enacting regulations.

Now that you have that certainty, it seems like the pumping of the brakes is the course that you guys may be moving towards. I would suggest that's perhaps not the best course for fisheries' management. According to the Menhaden Technical Committee as putting the new target fishing mortality rate at 0.38, which equates to that 57 percent MSP, this is a target that Omega Protein supports and it was actually quite higher than what you guys did just two years ago. If you look at the fishing mortality rate in the terminal year of 0.22, which is even far lower than the new target F and has been at a fishing mortality level for quite some time, I don't think you see especially on Omega Protein's part an expansion of this fishery.

Fishing mortality rates have been relatively low and there is virtually no fear of getting back up to previous levels from the 1970s and 1980s that I think a lot of you guys fear. With the realized fishing mortality rate in 2013 at 70 percent, that is even lower than this Pew/Lenfest suggested F that seems to be discussed quite a bit.

These are the things that we're talking about of this fishing to a target and current target levels.

They're extraordinarily conservative; perhaps more conservative than any fishery in the United States as it relates to the science at hand. These are the decisions that you have to make. In some ways this word may seem a little harsh, but do you want to ignore the technical committee's hard work over the last 18 months?

Do you want to ignore the peer-reviewed stock assessment and say that we know best of what to do with ecological reference points? Those are the things that we wanted to bring out. We would support material increases in harvest quota. We think that the science at hand has proven that the stock can support.

Ecological reference points are the goal, goals that we support, but we also don't want to see menhaden be the guiana pig for ecological reference points where it is rushed and incomplete and apply it to this fishery. Let's do it right, but let's not do something because of a public cry or a philosophy that we need these ecological reference points. Let's get it done.

You'll have Omega Protein at all those meetings standing shoulder to shoulder with you to develop the best ecological reference points. I can go through Jason's report, that it doesn't identify the spawner stock-recruit relationship. Essentially at that point how many eggs do you truly need in the population in order to be successful?

It may not be the best public comment you have heard at any of these management meetings, but it is from the heart. Omega Protein is a responsible and sustainable harvester of menhaden; and to be zeroed out in any quota increase after this assessment is a slap in the face to the hundred years of responsible fishing practices that we have engaged in. I thank you for your time and wish you the best of luck.

CHAIRMAN BOYLES: Thank you, Mr. Landry. I had indicated to the public an opportunity for two individuals to speak on either side of the motion. My question to the public, now going back to the favorable side, we have heard from two folks; are there any comments from the public that would differ substantially from what you've heard that would like to address the board?

MR. PATRICK PAQUETTE: Patrick Paquette, government affairs officer of the Massachusetts Striped Bass Association. I'm also a recreational advocate that works with groups from Maine to North Carolina. Speaking very specifically as a charterboat owner and tackle manufacturer and fisherman from Massachusetts, I just want to point out that although I agree this assessment shows a lot of fish in the water, this assessment also shows a significant lack of abundance in New England waters.

North of Rhode Island, the assessment scientists actually left out the two trawl surveys, the one from Massachusetts and the one from Maine, because of – and I'm going to quote the assessment now – because of lack of interaction with menhaden. Your actions have helped menhaden begin to recover, but we don't have them yet where I live.

I want what they're seeing in New York. I want what New Jersey has because I've had it in the past in my lifetime. I'm not talking about ancient times. In my lifetime we had robust amounts of menhaden in Gloucester Harbor and in Boston Harbor, and it drove unbelievable fisheries. We want our striped bass to come in from Stellwagen Bank in federal waters and to be in nearshore.

That message I want you to hear. This motion will let you use your fish wisely. It will let you raise a quota responsibly and based on data that considers the whole coast and not just one rush being pushed by one company out of one state that has shown record profits for each of the last five years. Thank you.

CHAIRMAN BOYLES: Thank you, Mr. Paquette. Again, another alternative perspective in those wishing to speak in opposition to the motion that differs substantially from the comments that you have heard before; anyone? Would you please come forward and identify yourself for the board, please.

MR. JAMES STANSELL: My name is James Stansell, and I'm a union representative for the commercial fishermen that you see. Basically I have a few questions. Number 1 is we're observing egg counts, but how are we studying the egg counts? Are we sending divers down to study the eggs? I mean, how are we determining the numbers when we say egg count?

I think this plays a big role in this question. I think everybody is looking at we're saying, okay, we see so many fish, but nobody is – how are we determining our egg count? No answers; okay. All right, let me move forward. Because we've had a reduction – if you look at the charts that have been presented, because we've had a reduction in the number of fishermen, period, we've lost a lot of your bait fishermen over the years.

You only have one reduction plant left on the east coast now; whereas, I think 30 years ago, according to the charts, you almost ten to fifteen reduction plants. You were fishing millions of more pounds of fish. That doesn't even look at the bait fishermen that might have closed last year due to the reductions that you put in.

Then you also have to look at some states are fishing less fish; so why don't we increase the proportions that the reductions can fish or others can fish since others are not fishing as much? I think if we observe this realistically and look at our charts, the years have shown that we have had fluctuations where the fish are up or down.

Now, has anyone pointed out whether this is ecological or is it from pollution or is it from overfishing? It can't be from overfishing because you've had a reduction in the number of fishermen over the 30-year period. You are taking less fish out of the water. Now, how many bait fishermen closed this year?

We know we only have one reduction plant. Yes, bycatch is a big problem. How do we measure bycatch with so many fishermen out here fishing such a variety of fish? We want to say 6,000 pounds of bycatch, but is there any way we can improve the nets so that the menhaden can swim out of the nets; has anyone studied that? I mean, there are a lot of questions I have. I've been left with a lot of questions this morning.

My number one question is how are we studying the egg count? Do you know what I mean? I'm not saying that you don't have an accurate measurement system; but are we sending divers down? Other than that, I don't see how you're going to measure the eggs. Do you know what I mean; being realistic? I close with those points.

CHAIRMAN BOYLES: We have a motion on the floor. Discussion? Dr. Daniel.

Dr. DANIEL: I wanted to just provide some of the justification for this. This goes back to the 2012 meeting, Mr. Chairman, and my role as the chair of the board at that time. This continues to bring out more people than any other issue that we're dealing with. It is an important issue to this commission.

It is probably the backbone of our coastal fisheries along the east coast of the United States; and there is uncertainty in where we are right now. We heard it from the technical committee report. We've numerous occasions where we have had a stock assessment. We were very concerned about the status of the

stock and we got a new stock assessment that says everything is great.

How confident are we in that? I'm pretty confident, but I think we need to take the time to do this right. Based on discussions that I've had as the chairman with staff and with other commissioners around the table, there is a lot of concerns; New York being able to account for their fish; the overages that occur on a tenth of a percent of the allocation.

Those types of things need to be corrected. We don't need to be spending this much time managing this fishery as we are if we do it right. I think this takes us in that direction. I think we've got a good harvest opportunity. I know it is critically important to the recreational fishery, the for-hire sector; certainly Omega Protein, but also to our bait fisheries.

Menhaden is the backbone of many of our biggest fisheries in the Mid-Atlantic, the crab fishery, and not to mention what is going on in New England with the lobsters. Now that New England is competing with us for bait, it is creating an issue. We have to look at this thing from a parity standpoint and do our best to make sure that we have adequate forage out there for the fish that we're trying to manage.

Everybody says striped bass; I say cobia; I say king mackerel; I say bluefin tuna. I say a lot of the fisheries from the South Atlantic's perspective that really aren't even mentioned in the mix. As far as biological reference points, I go for the most parsimonious option that we can come up with. I think that is something that we can direct the technical committee to do.

I think we can have a workgroup put together to help work on these issues; but I don't necessarily disagree 57 percent SPR is a pretty lofty goal. That's a pretty defensible reference point from my perspective. Is that the appropriate biological reference point for menhaden? That will be something for the board to decide as we move forward. I think something this big; we need to take the time. I feel like we're continuing to go down a rabbit hole. We need to turn around and come out of it and head in this direction. Thank you, Mr. Chairman.

CHAIRMAN BOYLES: Further discussion? Mr. Nowalsky,

MR. NOWALSKY: I appreciate the turnout from the public here today on both sides of the issue. I also want to express my gratitude to the assemblyman that I represent here today. He has taken great opportunity to interact with both sides of the issue, recreational and commercial fishing interests in my home state, and I can speak here today confidently on his behalf.

To that end, Mr. Chairman, I'm prepared to offer a substitute motion. That substitute motion I think has to incorporate the results of the stock assessment that we have here before us. I think that if that stock assessment had come back and was painting a picture of Atlantic menhaden in a more discouraging manner than what we've seen, I don't think there would be any opposition from this table today.

To that end, **I move that the commission set the 2015 TAC at 187,880 metric tons and initiate Amendment 3 to the Atlantic Menhaden FMP to establish ecological reference points and review state allocations as required by Amendment 2. The TAC would increase by 10 percent in 2016 and 2017 or until a new coast-wide TAC could be set based on the ecological reference points developed in Amendment 3.**

CHAIRMAN BOYLES: Thank you, Mr. Nowalsky. Is there a second; second from Mr. Train. We have a substitute motion. Give us just a moment to get that on the board. Dave, you had a question?

MR. SIMPSON: Yes, while it is being typed up, to be clear on the motion; so it is 187,000 tons in '15 and it goes up 10 percent from there in "16 and up again in '17 by another 10 percent? I just want to be clear.

MR. NOWALSKY: Correct; or until a new TAC could be set based on biological reference points. That 187,880 represents 10 percent for 2015.

CHAIRMAN BOYLES: Adam, is that your motion on the board? Can you read that into the record, please, for us to make sure we've got it?

MR. NOWALSKY: I believe so. Ms. Kerns has what I had typed up originally, but that looks correct. I will read it again: move to substitute the TAC at 187,880 metric tons for 2015 and initiate Amendment 3 to the Atlantic Menhaden FMP to establish ecological reference points and to review state allocations as required by Amendment 2. The TAC would increase by 10 percent in 2016 and 2017, or until a new coast-wide TAC could be set based on ecological reference points developed by Amendment 3.

CHAIRMAN BOYLES: That motion was by Mr. Nowalsky and seconded by Mr. Train.

DR. PIERCE: Mr. Chairman, point of order, if I may.

CHAIRMAN BOYLES: Yes; Dr. Pierce.

DR. PIERCE: I believe Mike said at the beginning of this meeting that we were, because of the amendment that is in place right now, obliged to keep the TAC constant. This is a clarification because I thought that is what Mike said; just to make sure we're not going down a rabbit hole here if the motion is out of order.

MR. WAINE: Yes; I just specified that the board could set a TAC for 2015 or a TAC over multiple years. The TAC does not need to be the same if it is set over multiple years. There is nothing in the plan that specifies that restriction.

CHAIRMAN BOYLES: The substitute motion is in order. Discussion on the substitute motion? I had Mr. Gilmore.

MR. GILMORE: This is a question really for Mike. Neither one of these motions does anything actually for this year on the bait fishery issue or the allocation into that. The question is we would then have to live on transfers for this year under the bait fishery; and assuming that, do you have numbers on what the overage was coastwide? The bottom line of the question is are we going to have enough fish to cover the overages while we sort all this out?

MR. WAINE: The answer to the first part is it takes a management document to address allocation, either an addendum or an amendment. Amendment 2 specifies we will revisit allocation in '16. The answer to your second part of the question is it depends on how states scale up their fisheries to meet this new TAC. If you scale up proportionally, then you will likely have similar overages if states keep their fisheries similar to what we've been harvesting. Then this increase would cover that, but I would suspect that the states will increase their harvest relative to the increase in the TAC.

SENATOR WATTERS: Obviously, I speak from a state which doesn't have a large interest in this fishery, so I think it is important to step back and see what kind of interests we are trying to accommodate here. I think we do have technical reports to justify some increase in the TAC. I think also, as I noted earlier, we have uncertainty about risks and probabilities as well.

I also think that whatever we do, we may want to think about how much of any increase we're going to give to industry and how much might

be allocated to the states that might be given back for conservation purposes. To the point of this particular amendment, I think it does make sense to initiate an increase to 187,000.

I was personally thinking of 192,000 because it is going back to that projection four of the earlier report; but I have concerns about building in the increases in the second two years without having had the discussion of allocation or having some better figures on the risks involved. I think for my fellow commissioners perhaps the first part of this amendment makes the most sense in terms of what we know, but the second part would perhaps get us into territory that is more uncertain.

MR. O'REILLY: Mr. Chairman, I'll keep comments to the substitute motion. I can support the substitute motion. I, too, was looking to see someone talk about 192,150 metric tons, which corresponds to a 10 percent change from where we were in 2012. I do have a couple of comments about this. I like the approach from a conservation benefit.

I was an ecology major so I have great appreciation for ecosystem-based reference points, ecosystem-assisted management, all the things that we've talked about over the years. I do think we can move in that direction. There has been a lot of work lately both at the council level and at the ASMFC on forage fish and ecological reference points. It is not the impossibility that it may have been several years ago.

However, it won't happen overnight; and when it happens, there is going to be modifications. Let's realize that as we go forward that it can be done, but there will always be modifications. I did want to mention that up until 2012, one of the benefits of Amendment 2 was it shows us just which states have a situation with bait that we didn't know about before, whether it be reporting, unknown harvesters, whatever the situation was.

I contend that can be taken care of no matter what our management framework looks like going forward. The idea is that we now know there is more interest in bait than before. Virginia does have three different sectors and not just one. It has a vibrant non-purse seine fishery as well as a snapper rig fishery as well as Omega. There are three different sectors.

I think as we go forward, this is in keeping with conservation. Conservation includes man so let's really vouch for conservation. Let's also vouch for the ASMFC, which prides itself on sustainable fisheries and prides itself on sound science. All of that has been demonstrated through this benchmark assessment and peer review process.

If you go back just a little bit – and this will be the last part of my thoughts – to 2011, we started on this process with an idea that we really need to get the menhaden stock below the threshold. It was as simple as that; let's get it below the threshold. That took wings and we flew towards the target. We debated what that meant to go towards the target or to the target for a while.

We did that; we took the best science possible that we had at the time, which was through 2009. Once we had that, we did go together through a process. Some didn't agree with that process, but we had a process. We then went through an update. The update didn't fare so well. There were problems with the update.

Nonetheless, the ASMFC did say we need to pay attention to what we learned from the last assessment. Now we have this assessment. This assessment is something that really I agree with those who commented is strong and is sound. I think that we need to pay attention to where we are on the reference points. They are formidable, I think, as far as a threshold and

target value, both for fishing mortality rate and for the eggs. Those are my comments. I appreciate it and I will support the motion.

CHAIRMAN BOYLES: Thank you, Rob. Just for the board's understanding, the new base, I think – and check me on this, Mr. Nowalsky – the 2015 TAC under these calculations, 187,880 metric tons, which is a 10 percent increase over where we are now, a 10 percent increase as you contemplate in 2016 would be 206,670 metric tons, which is 10 percent over the 10 percent in 2015; and subsequent to that, the 2017 TAC would be 227,335 metric tons. So just to be sure that the board is clear on what those numbers look like. From there, we will go to Mike Mallard.

DR. MIKE MALLARD: The U.S. Fish and Wildlife Service cannot support this substitute amendment for a couple of reasons. I was struck by several statements during the technical committee report mostly having to do with the variability in the analysis. I heard the statement that the reference points would vary around the target in a distributional way and it seemed to be fairly innocuous. Of course, the question is what does that distribution look like?

Then I listened to some very insightful questions from David Pierce and David Simpson poking at that uncertainty. When you start to add these things together and you realize that these uncertainties compound in an exponential way and not even in an additive way, I start to feel less good about some of the projections that I see in the technical committee report.

For risk management alone, the Service can't support an increased TAC. Secondly, I think Jack Travelstead had it just right saying we should let the ERPs come to the table first and then let the new TACs flow from the ERPs. Thank you.

REPRESENTATIVE SARAH K. PEAKE: I speak in opposition to the substitute motion and I hope that it is defeated for several reasons. One, I think that it fails to account for the fact that we're not seeing any of these fish north of Rhode Island, as one of the members of the public spoke to earlier today.

Secondly, I think we worked very hard to get at the target; and by increasing the TAC as it is proposed in the substitute motion, for lack of a better characterization, I think we're throwing caution to the wind. We have a very, I think, startling table in the materials that were presented to us today; and by increasing the TAC to 187,880, while that number isn't specifically in there, I think that the percent chance of missing the target would be somewhere in excess of 60 percent, which in my mind is unacceptably high.

Lastly, in closing, because I'm losing my voice, as you can hear, I will associate myself with the comments of Dr. Daniel that I thought were spot-on with the underlying motion. It is for those reasons I hope this is defeated and we can get on to talking about the underlying motion. Thank you.

MR. ADLER: It is funny how we take away and we have trouble trying to give anything back. It is not overfished, overfishing is not occurring. I do support the ecological reference point part of either one of these motions. I also wonder, as I've questioned before, how many fish – not the eggs – how many fish are out there versus how many are harvested; and it sees that there is plenty left for forage.

One of my questions had to do with – and I think the chairman brought this up – if this new number is put in and does pass; that the following year there will be another increase and another increase. This falls back to what I had said in a previous discussion on Page 5 of the technical committee; I asked if the current TAC that we have now and has been proposed

for this coming year, it stays where it is, this Table 7 showed that in the following year there would be an automatic increase; and then in 2017 there would another increase.

Is that a correct assessment; because you said if you put a new number in, then it goes up every year by a certain percentage? On Page 5, Table 7, of the previous document; is it true that if it stays at the current level, which is like 170,800 metric tons, that the following year it will go up and then the following year it would automatically go up again; is that what I'm reading here?

CHAIRMAN BOYLES: Yes, sir, that is my take on the substitute motion on the floor; yes.

MR. ADLER: I mean, yes, that would happen with that number; but on this Table 7 it says if the – it basically says that the number we have now in existence, which is 170,800, which has also been proposed in the regular motion; does that mean that the following year it will in 2016 automatically go up and then in 2017 go up again? Just like you just said it would happen with this one; would it happen with the other one, too?

MR. WAINE: With that specific approach, that is the constant F approach; so to maintain a 50 percent probability of achieving F target, in each of the three years the TAC is going to change; and as a result, it does go up in each of the three years for Projection Run Number 7, the one you're referencing. I think what Mr. Nowalsky has done is a little bit of a combination of the two; used the TACs that were referenced in the other projection runs to combine a changing TAC through time as oppose to Projection Run 7 that was presented by the technical committee.

MR. ADLER: If I may, Mr. Chairman, basically what I'm trying to say is it looks like if you keep the 170,800, which has been proposed in one of the motions, it gives you a number. Then with using the same level, it does go up the next two years. In this motion, whatever that number is, 187, whatever, that would go up automatically, as you said, the following year. It looks like there will be an increase in the TAC even if you stay the same – at the 170 there would still be an increase in 2016 and 2017. At least that is the way I'm reading it.

MS. FEGLEY: Mr. Chairman, I will have comments on the main motion as well; but I cannot support this motion as written. First of all, I think the board would be wise to consider considering the TAC separately from the other two issues of the ERPs and the allocation. I believe we can set the TAC without an amendment process.

The other issues are bigger; and as Dr. Daniel said require some time to get them right. The bottom line on this motion, which I hope will be defeated, is that while I could support a number of 187,880, the subsequent increases of 10 percent each year seem counter to everything that we have accomplished over the last few years, especially given the risk in those projections and the idea that we're banking on that median recruitment. The bottom line, like I said, I'll have comments. I hope we get back to the main motion, but I cannot support this one.

MR. STOCKWELL: Given the updated status of stock and for most of the rationale that Adam offered during his move to the motion to substitute, I can support the motion to substitute with the exception of the hard-wired in addition of the 10 percent in the TAC increase in 2016 and 2017. I'm going to make a motion to amend.

CHAIRMAN BOYLES: Mr. Stockwell, would you hold that? You can certainly overrule me, but I would call that out of order. I think we're going to get ourselves wrapped around the axle. You all can certainly vote to overrule me, but I would have that motion out of order.

MR. GROUT: Point of order; why is it out of order? You're allowed to make up to two amendments on the substitute motion. You also should be going back and talking about the underlying motion, too, in this debate under Roberts' Rules of Order. It certainly is within Roberts' Rules of Order to make an amendment to a substitute.

CHAIRMAN BOYLES: Okay, did I hear an amendment or did I hear a substitute?

MR. STOCKWELL: You heard an amendment. **If I'm allowed to make the motion to amend** –
CHAIRMAN BOYLES: Proceed.

MR. STOCKWELL: **If you could put the motion back up on the board, what I want to do is delete the last sentence that the TAC would increase by 10 percent through ecological reference points; so that we would only be substituting the 187,880 for 2015 and initiating the amendment.**

CHAIRMAN BOYLES: Motion to amend by Mr. Stockwell; seconded by Senator Watters. Does everybody know where we are? Now the motion to amend is the motion on the floor. That motion is to move to amend the substitute motion by removing "The TAC at 187,880 metric tons for 2015" – one moment. Mr. Goldsborough.

MR. GOLDSBOROUGH: Mr. Chairman, I was prepared to comment on the earlier motion, but the sentiment is still the same. I prefer the original motion from Dr. Daniel. I have to say that I heard shortly ago the comment that with respect to quota; that it is often taken but rarely returned, something to that respect.

I think that is actually a sentiment that we can say about the ecosystem pretty consistently over time that forage, menhaden specifically which I think is essentially the fuel of the food web, is taken but not returned through our management actions. Reference has been made to how good the picture is painted by this assessment, overfishing is not occurring; the stock is not overfished; and that's true.

I would say that particularly with respect to biomass things are better than the last benchmark; but I do think it is important for us all to be cognizant of the fact that with respect to abundance, which is most important for forage, we actually have a more dire picture than the last benchmark. The abundance level is lower than the last benchmark.

Let's temper our comments about the good news and therefore let's cash in on it; and let's think more in terms of allowing whatever improvement we might have in the stock to fuel the food web that has been waiting a long time. We also last year had a benchmark assessment for striped bass that the result was there is no overfishing and the stock is not overfished; but we proceeded to cut back on the catch by 25 percent.

There is a lot more to an assessment than just those 30,000 foot conclusions. We do have a lot of very obvious ecological imbalances still in the food web on this coast. We know that striped bass in the Chesapeake Bay are suffering a higher mortality rate due to a disease that has been linked to poor nutrition. We've heard that, well, they can shift to other prey.

Well, they have shifted to other prey; they have eaten juvenile blue crabs, which is a very valuable fishery in the Chesapeake Bay. I understand they're doing the same with juvenile lobster further north, another valuable fishery. They also have shifted to bay anchovies. Some might say, well, they're very abundant; a much smaller piece of nutrition for something as big as a striped bass; a lot more work to obtain it, too.

But that puts them in competition with other predators that depend on bay anchovies; for example, the weakfish that we know is at such a

low level, we pretty much have thrown up our hands about what we can do about it. Striped bass outcompete weakfish for their primary forage. Not only that, we now are told that striped bass are feeding on juvenile weakfish for lack of their preferred prey. When we talk about giving back and we talk about that from a responsible management standpoint, I think at this juncture to what extent we might have a positive turn in menhaden stock, we would do well to give back to the ecosystem and implement the sentiment of the initial motion and move forward with more responsible management. Thank you.

CHAIRMAN BOYLES: All right, just to remind the board where we are; we have now at the top of the screen a substitute motion which is offered by Mr. Nowalsky and seconded by Mr. Train; and **now a motion on the floor to amend that substitute motion. The motion would be to move to amend the substitute motion by removing "The TAC would increase by 10 percent in 2016 and 2017, or until a new coast-wide TAC could be set based on ecological reference points developed by Amendment 3".** That motion to amend was made by Mr. Stockwell and seconded by Senator Watters. Further discussion on the floor. Mr. Grout.

MR. GROUT: I support the amendment to the substitute. When we were addressing Amendment 2, we were basing it on an updated stock assessment that was very uncertain compared to previous stock assessments. In fact, I remember asking – they said that we were overfishing; and I said, well, what do we need to reduce our harvest bar to get to a non-overfishing status; and the technical committee could not give us that number.

They said that 20 percent would get us in the right direction. We now move forward to an assessment that we recently had that is a new assessment, a new benchmark assessment that was peer reviewed and showed a very different picture than what we had from the last update and also more similar to what we'd had in the past.

As I look at this, we set that 20 percent based on – I won't call it a guess; we were doing our best; but we were trying to reduce mortality because we thought we were overfishing. We clearly now see that we haven't been overfishing for the past ten years and for the past thirty years. In fact, we've been below the target for the ten years.

I feel comfortable with allowing this modest increase and that even with this modest increase we will still be leaving fish in the water for our prey species that we have been trying to – that we are managing right now.

Because the fishing mortality rate is less than two-thirds of the target, not two-thirds of the threshold, but two-thirds of our target – a target is typically something you want to be fishing – trying to attain or being close to it and not something like a threshold where you don't want to be anywhere near; you want to stay away from that line.

I think this gets at giving a modest increase based on the newest stock assessment; and it also moves us down the road of one of my favorite issues that I've been trying to get this board to work on for five or six years; and that is trying to establish ecological-based reference points as well as look at potentially reallocation in an amendment. I think this is the right way for the board to go. On a personal note, New Hampshire will appreciate the 11 pound increase in quota that this will give us.

MR. HASBROUCK: I had my hand up before because I was prepared to offer an amendment; so I don't want to complicate things right now. It is probably out of order; but if you could come back to me once we've had the vote on this amendment, I have an amendment to offer as well.

DR. PIERCE: I could support the motion to amend the substitute because it gets rid of the 10 percent increase in 2016 and '17. Those increases to me don't make much sense in light of all the discussion that we've heard so far. However, if it does pass and I would support it; I would not then support it as a substitute motion because the substitute motion then is 187,880 metric tons.

Although it is a relatively modest increase from where we are right now, I'll just restate what I said before and that is we do have a new assessment, an updated assessment. It was peer reviewed and we're very thankful for it. Nevertheless, as stated this morning, there are highly uncertain projections. Recruitment in recent years really hasn't been accounted for; that is that lower recruitment.

I look at the percent risk of exceeding the F target. We're at the F target, that is where we need to be, that is where I would like to stay, so I reiterate the point made by Representative Peake. If we go with 187,880 metric tons, the percent risk of exceeding the F target would be around 60 percent or so. Frankly, I'm uncomfortable with 50 percent, which is the coin toss. At 60 percent, it is hard to live with that and hard to defend that. So, again, a modest increase but I'm influenced by other factors, those I've just mentioned.

MR THOMAS. FOTE: It is always interesting when we get into a discussion about menhaden. I've been doing it for a long time as we go through the years. It always kind of concerned me that we always look at saying this is a great stock assessment; but when we look at that, it is not fully within the range.

If we talked about any other species and we talk about how it expands to the range, like black sea bass is now up in New Hampshire and Maine and other species like that; we don't usually have a species where we say, well, it is sustainable at one of the lowest levels in historical times and missing from whole areas where historically it has been.

That has always been my concern with the way we manage menhaden, so that hasn't changed. I also look at one entity shouldn't have 85.7 percent of the resource. That is one entity, one company. We don't allow that to happen in any other species that I know. That only time that happened is when we did IFQs on surf clams and caused the disaster that I've seen over the years.

It really disturbs me when we look at this and also puts me perplexed of what I'm supposed to do here and look at what I'm aiming at. I think that is a decision that a lot of us are having around the table; what are we supposed to do? My motion, if I had made one, was to basically that any increase would come as a reallocation and basically put it from the one end over to the rest of the states and basically handle it that way and not by a general increase. That is what I had supported.

The original motion that Adam made I could not support going forward. I'm still having problems with this motion, and I'll have to make that decision when we come to a vote. It really concerns me that we set the premise that we hear all those things and how great the resource is. When I first got here, some of you remember Tony Vega was the governor's appointee.

He was a purse seiner from Massachusetts. Then he became a legislator and then he sent Vito Calomo. Vito's job was a purse seiner from Massachusetts who basically harvested menhaden. Well, there ain't on purse seiners in Massachusetts harvesting menhaden that I know of like they were back then. There is none down in – you know, up in Maine they basically do it like they did when the reduction boats or reduction plants were up there. That is my concern and that is when I have to come to it. I would as soon in some ways go to the first

motion because basically we've done the ecological concerns and we basically would have done the reallocation, and I think we need to do that first.

MR. JOHN CLARK: I support the amendment to the substitute motion. I think we need to be consistent. When it came to striped bass, we were falling all over ourselves to accept the new reference points and reduce the harvest there. We've had a very good assessment just completed for menhaden. I think based on what we've seen there, we're not overfishing and it is not overfished. I think we can withstand this small increase in the TAC.

I would also like to emphasize the socio-economics of this. I've seen in our state the lack of availability of bait in our blue crab fishery and the subsequent increase in price has hurt a lot of our crabbers. I know that is a problem up and down the coast. For those reasons, I do support this amendment.

MR. BORDEN: Conceptually I can support a 10 percent increase. I think it makes sense at this stage; but I have reservations. My reservations get to some of the points that I raised the first time I spoke. I've put together a list of what I would characterize eight major flaws in the Menhaden Plan; and these aren't just Rhode Island issues. They're issues that kind of permeate the FMP.

I'm extremely troubled by the prospect that we would do an amendment. If we get into any of those problems that I have on my list, it is going to take at least two years if not longer to do this. What troubles me the most is we have these inequities that are built into the system, and those are going to continue for two years.

To me, if we're going to increase the quota by whatever the number is of 37 million pounds, I think we need to do something else and have basically some kind of bridging strategy, for lack of a better word, that allows the states together to kind of collaborate and work together to try to solve some of these issues and maybe redistribute through voluntary actions some of the quota to try to get away from the situation where the state of New Hampshire has to manage a 117 pound quota.

MR. BALLOU: First I just want to note my appreciation for the significant public input that was provided on this issue both before this meeting and at this meeting; very much appreciated and very compelling on both sides.

Secondly, I want to note that I would support the amendment to the substitute but not the substitute itself because of my concern that the increase is higher than that which can be supported based on our risk tolerance.

My sense is that – and I should say my understanding is that a 187,000 pound quota would have – it would be more than a 50 percent probability of exceeding the target F in 2015. My comfort level would be perhaps a modest increase – and I think 173,000 is what I see from the technical committee report – such that it would maintain that 50 percent probability in 2015. The essence of my comments are very similar to the sentiments expressed by Representative Peake and Dr. Pierce, so I won't reiterate those. That is all I have to say at this point. Thank you.

CHAIRMAN BOYLES: Thank you, Mr. Ballou; yes, that is reflected in Table 2 of the memo from staff to the board on recommended ERPs and projection runs. What Mike just pointed out is you're somewhere between the second and third row in 2015, 2016 and 2017. Mr. Reid.

MR. ERIC REID: Thank you, Mr. Chairman, for letting the entire state of Rhode Island weigh in on our 66,000 pounds that were allowed; so I appreciate that a lot. I can't support the first motion, the original motion, because management is now driven by science. I have

been killed by science on a lot of other fisheries besides menhaden.

I would be much more willing to support the second motion with the addendum because then perhaps maybe I am only wounded by science. Certainly, one year would be a nice, easy step back into this fishery. Also, I would prefer to have a mechanism as David alluded to that a state like Rhode Island and some other states could get access to this fishery in a much more expedited fashion than an amendment.

Whatever that bridge motion is or whatever that bridge mechanism is I would appreciate it; but at this point I can't accept the first motion. I would accept the second motion if it could be amended to accommodate a much more expedited access to that resource for menhaden for states like Rhode Island.

MR. O'REILLY: Mr. Chairman, we have a question first, which is the motion doesn't say anything about 2016 and '17 now with the amendment. Is it implied that the 187,880 metric tons would be a continuum through 2016 and '17 unless changed? I think that needs to be clarified; and then I'll have some comments if I can get an answer to that.

MR. STOCKWELL: I had not intended it to be anything more than the 2015 TAC pending the work of the board.

CHAIRMAN BOYLES: Okay, just for the board's understanding – and Toni, Bob, Mike, I'm going to look to you – an amendment will likely be back here not ready for final action. It is probably going to be a two-year deal; is that correct, Bob?

EXECUTIVE DIRECTOR BEAL: Well, as with all addendums or amendments, it depends on how many issues you guys want to tackle in that and how complicated they get. The reality is an amendment will not affect 2016. The best you can do would be to have an amendment in place that will affect 2017 and beyond.

CHAIRMAN BOYLES: So, Rob, that is the working assumption, to answer that question; and now back to your discussion.

MR. O'REILLY: Tell me the assumption on the number of years that it would be 187,800 metric tons, please; is it just 2015? There were two different thoughts there.

MR. STOCKWELL: Given Bob's advice about the length of time it will take this board to work through an amendment should this motion or the underlying motion pass, I would like to wordsmith by adding in "2016" as well, so it would be a two-year time period.

CHAIRMAN BOYLES: Terry, that is an amendment.

MR. STOCKWELL: I won't do it. I won't amend the amendment, so we'll just let it lie.

MR. O'REILLY: I think given the timing involved; that we really should ask the motioner and the seconder if they could have a friendly amendment because the practicality is seen it is going to be more than 2015. To get back on track for 2016 might be a real challenge, so I don't that this disrupts Robert's Rules to do a friendly amendment.

CHAIRMAN BOYLES: Thank you, Rob; I appreciate what you're trying to do. The amendment on the floor belongs to the body. I would rule the motion out of order.

MR. STOCKWELL: I'm feeling friendly, though. (Laughter)

CHAIRMAN BOYLES: I wore my happy fish tie today, Terry; I'm not real happy right now.

MR. O'REILLY: Well, we could support the motion, but it would be making sure that we

can come back for 2016, which I guess will be a challenge. The original substitute was our preference, but I do take the other comments that were made to be some indication of resistance there. I think there will be an update in three years is what I understand; so we really will get a test on the true strength of this last assessment. We could support the motion but may come back with something else in just a minute.

CHAIRMAN BOYLES: Let me ask the Body; is the Body willing to entertain a friendly motion? Is there an objection to a friendly amendment that would apply Mr. Stockwell's motion to 2016 as well? Is there any objection from the board? I see none; so we will make that note. Can we put that on the board, please? Bob.

EXECUTIVE DIRECTOR BEAL: Just so we know as staff what you want us to include here; it will say "and by adding the 2016 quota will be set at 187,880"; is that right, Terry? All right, we'll get that in there and then you guys can make sure it is what you have in mind.

MR. HASBROUCK: Mr. Chairman, before we vote on this amendment and to help address one of the issues that Dave Borden and Tom Fote and Eric Reid brought up; as I mentioned to you before, I was prepared to make an amendment. Without yet making that amendment, the intent would be to start to address the state-by-state allocation through an addendum, but I'll hold off on making that amendment until the time is appropriate.

CHAIRMAN BOYLES: Thank you, Dr. Hasbrouck. Is there anyone who has not spoken, anybody who has not spoken and I have not called on about this motion? Ms. Fegley.

MS. FEGLEY: I guess I would at this point beseech us to think carefully about where we're going with this. I think that the modest increase by the science is supportable. It would lock us into a coast-wide TAC that is among the lower levels of harvest in the time series. We know we're fishing below a target level of F 57 percent; so that seems reasonable.

However, we also have – and we can do that without an amendment. As I understand, we could make that decision just as a specification; but we have included it with an amendment that is going to tackle two very complicated issues, ERPs and allocation. Amendment 2 is probably one of the most important things that has happened in fisheries' management in many years.

That being said, Amendment 2 left us with a tangled mess. We have really big problems. I am not convinced that an amendment process is going to allow us to logically address and fix the problems we have when we're dealing with these very complicated issues. I think we need to take a step back, set our TAC, lock us in.

Then I think it would be really smart to put managers together, board members, where the rubber hits the road, and come up with viable options for ERPs and the state-by-state allocation mess and bring it back to the board in August or at the annual meeting. We lose five months. If we can't get it done, we'll start an amendment; but I have grave concerns that by starting the amendment process, we all know how the amendment works. We're in it right now.

We have substitutes, amendments, we wind up with unintended consequences. These are problems too complicated to get sorted out in parliamentary procedure. I guess the bottom line is while I would support the level of TAC, the amendment process worries me. If there is any way we could split the motion, that would be great. Thank you.

CHAIRMAN BOYLES: Who is ready to vote? We'll call the question and take a moment to caucus.

(Whereupon, a caucus was held.)

CHAIRMAN BOYLES: Let me read the motion so it is clear what the board is voting on. This is the motion to amend the substitute motion, and that motion is move to amend the substitute motion by removing "The TAC would increase by 10 person in 2016 and 2017, or until a new coast-wide TAC could be set based on ecological reference points developed by Amendment 3" and adding "and 2016" to set TAC at 187,880 metric tons. That motion is by Mr. Stockwell and seconded by Mr. Watters. A roll call has been requested and so ordered.

MR. WAINE: Maine.

MAINE: Yes.

MR. WAINE: New Hampshire.

NEW HAMPSHIRE: Yes.

MR. WAINE: Commonwealth of Massachusetts.

MASSACHUSETTS: No.

MR. WAINE: Rhode Island.\

RHODE ISLAND: No.

MR. WAINE: Connecticut.

CONNECTICUT: Yes.

MR. WAINE: New York.

NEW YORK: Yes.

MR. WAINE: New Jersey.

NEW JERSEY: Yes.

MR. WAINE: Delaware.

DELAWARE: Yes.

MR. WAINE: Maryland.

MARYLAND: Yes.

MR. WAINE: Potomac River Fisheries Commission.

POTOMAC RIVER FISHERIES COMMISSION: Yes.

MR. WAINE: Commonwealth of Virginia.

VIRGINIA: Yes.

MR. WAINE: North Carolina.

NORTH CAROLINA: Yes.

MR. WAINE: South Carolina.

SOUTH CAROLINA: Yes.

MR. WAINE: Georgia.

GEORGIA: Yes.

MR. WAINE: Florida.

FLORIDA: Yes.

MR. WAINE: National Marine Fisheries Service.

NATIONAL MARINE FISHERIES SERVICE: Yes.

MR. WAINE: U.S. Fish and Wildlife Service.

U.S. FISH AND WILDLIFE SERVICE: Yes.

CHAIRMAN BOYLES: **That motion carries by a vote of 15 in favor and 2 in opposition.** The amended motion on the floor, give us just a moment. Can staff get us that? Professor Hasbrouck, you said you wanted to come back and comment. Do you have comments?

MR. HASBROUCK: Mr. Chairman, as I said, I was prepared to offer an amendment which I guess now is to the amended substitute motion. Is

what is on the board where we are with this right now; is that the correct wording?

CHAIRMAN BOYLES: Yes; the motion on the floor, which is an amended substitute – **for discussion purposes, let's call this a substitute motion to the original made by Dr. Daniel. The motion before the board now is move to substitute the TAC at 187,880 metric tons for 2015 and 2016; and initiate Amendment 3 to the Atlantic Menhaden Fishery Management Plan to establish ecological reference points and to review state allocation as required by Amendment 2.** This amended motion was made by Mr. Nowalsky and seconded by Mr. Train.

MR. HASBROUCK: I was prepared to make an amendment, and I just wanted clarification on what the substitute motion is.

CHAIRMAN BOYLES: Proceed.

MR. HASBROUCK: My amendment would be to pull out where it says "and to review state allocation as required by Amendment 2". I guess I would just put a period after "reference points"; and then say "to initiate an addendum to review state allocation to include a possible coastal bait small vessel allocation".

CHAIRMAN BOYLES: Is that a motion?

MR. HASBROUCK: Yes.

CHAIRMAN BOYLES: Motion by Dr. Hasbrouck. Is there a second? Emerson, would repeat that, please?

MR. HASBROUCK: Yes; where it says "to establish ecological reference points", period; and then add "to review state allocation to include a possible coastal bait small vessel allocation". I don't know that we need "as required by Amendment 2" in there.

CHAIRMAN BOYLES: We have a motion; did I see a second? I don't see a second; the motion dies for lack of a section. Ms. Fegley.

MS. FEGLEY: Well, I was going to move to divide this question, but I think we have to get back to the main motion first; correct?

CHAIRMAN BOYLES: Time out. Dr. Daniel.

DR. DANIEL: Just a real quick point on this motion; and I want to make sure it is clear that the assessment does have some positive trends. There are uncertainties, but I do believe there is room to increase harvest. What the motion does here is it really doesn't address our problem. We need to get the allocation right; otherwise, what is it, 83 or 85 percent of this increase goes to one group.
It doesn't do anything to address my bait issues and probably anyone else's. That is my main concern is it is not increasing the quota, if that's justified. It is getting the allocation scheme right before we start increasing again.

CHAIRMAN BOYLES: Ms. Fegley, I think we're okay in dividing the motion with the quota in one motion and allocation and ecosystem in a second motion. I would rule such a motion in order.

MS. FEGLEY: Do I need to say something?

CHAIRMAN BOYLES: I really do, yes, ma'am, please.

MS. FEGLEY**: Okay, I move to divide the question so that the TAC specifications are in one motion and the second motion deals with ecological reference points and allocation.**

CHAIRMAN BOYLES: Seconded many times; I see Marty seconds. Motion to divide; discussion on the motion to divide? I see none; do we need time to caucus? Our executive director just reminded me remember this is a substitute motion; and so the motion to divide

the substitute motion, we've got to figure out how this cross-walks with the main motion. The motion is to divide so that the TAC of 187,880 metric tons for 2015 and 2016 is in one motion; and a second motion, initiate the management action for development of ecological reference points and an allocation plan. Ms. Fegley, was that your motion?

MS. FEGLEY: Yes.

CHAIRMAN BOYLES: And that was a management action and not an addendum or an amendment? I think there is going to be some discussion about this. I'm going to designate the New Hampshire delegation as the parliamentarian through the Menhaden Board. Ms. Fegley, would you read that into the record, please, if it is to your liking.

MS. FEGLEY: **Okay, move to divide the motion so the TAC of 187,880 metric tons for 2015 and 2016 is one motion; and the second motion would be to initiate an amendment for the development of ERPs and allocation.**

CHAIRMAN BOYLES: Motion by Ms. Fegley; seconded by Mr. Gary. Discussion on that motion? Mr. Nowalsky.

MR. NOWALSKY: Mr. Chairman, while I don't claim to have the parliamentary experience of New Hampshire, I would certainly believe that this motion would be best addressed after we voted on the motion to substitute and this then became the main motion or we went back to the original. The parliamentary decision tree that we would have to go through of dividing this and dealing with it, I think would really set us back at this point.

MR. BORDEN: I share some of the parliamentary concerns; but withstanding that point, I support what the intent is here. These are two separate issues. I think we should take the two separate issues and divide them basically and then vote them up or down. Now, whether we do that now or we go back and change the ruling that was previously made and change the order of the decision doesn't make any difference; but the advantage of this strategy is it gets exactly to some of the points that were raised before is it is a question of whether or not we want to pursue an amendment on the state quota issues or an addendum. One is a lot faster than the other.

CHAIRMAN BOYLES: Thank you, and I apologize for my parliamentary inartfullness. I think where we are here is we have a motion to divide. In essence what the board is considering are really two issues here. One is the TAC and there are on the floor two numbers for TAC. I also see and hear the board indicating some interest in moving down the development of a management action amendment/addenda to develop ecological reference points and allocation.

It would be my intent at this point, should this motion carry, to take a vote immediately on initiating an amendment to develop ecological reference points. Should that motion carry – actually regardless of whether that motion carries, we will then move to the second half of the divided question, which will in essence be a question of do you believe it appropriate to have a TAC in 2015 and 2016 of 187,880 metric tons; or, do you believe it to be more appropriate to stay status quo.

Adam, I agree with you, I'm not sure we're here – and Mr. Borden – in the most expeditious parliamentary procedure, but that would be my intention in proceeding should this vote prevail. Any questions or discussion? Seeing none; time to caucus. Seeing none; all those in favor of the motion to divide signify by raising your right hand**. That motion carries.**

Now, a division of the question is to initiate – I would take a motion, rather, to initiate the development of Amendment 3 to the Atlantic Menhaden Fishery Management Plan for the development of ecological reference points and

allocation. I would look for a motion along those lines.

SENATOR WATTERS: A point of order.

CHAIRMAN BOYLES: Yes, sir, Senator Watters.

SENATOR WATTERS: Mr. Chairman, I'm not a parliamentarian but I do believe that the effect of passing the substitute motion is to put these two motions on the floor. I think we have to act on these before you can make another motion.

CHAIRMAN BOYLES: Thank you, Senator Watters. The motion on the floor is to initiate Amendment 3 to the Atlantic Menhaden Fishery Management Plan for the development of ecological reference points and allocation. Discussion on that motion? Mr. Adler.

MR. ADLER: Just a question here; is an amendment – I think this was brought up before – is it an amendment we'd have to have or an addendum? I don't know the answer to that. I didn't know if maybe the wording could be to the point where it could be either that we decide or somebody decides it has to be an amendment or it has to be an addendum. I know an addendum would be a lot quicker.

CHAIRMAN BOYLES: I'll turn to Mike.

MR. WAINE: It is really up to the board whether they'd like to act through an addendum or an amendment. Amendment 2 allows both of these topics to be changed through the adaptive management process, which would allow them to be changed through an addendum. However, as Dr. Daniel pointed out earlier, there is possibly some drive to do this through an amendment process because of how big the topics are.

MR. ADLER: Well, then, should the motion say "amendment" or "addendum"?

CHAIRMAN BOYLES: Actually, Mr. Adler, I was corrected about that when I suggested a management action; but recall this origin is in the form of a substitute; so you go back to the original motion that was offered by Dr. Daniel, which references an amendment. Does everybody know where we are? Further discussion?

The motion on the floor is move to initiate Amendment 3 to the Atlantic Menhaden Fishery Management Plan for the development of ecological reference points and allocation. All those in favor of that motion please signify by raising your right hand. **That motion carries unanimously**.

Now, if it pleases the board, we are back to a substitute motion to Dr. Daniel's original motion; and that substitute motion is in the form of a different number in terms of the TAC. I ask staff to put the original motion from Dr. Daniel as well as the move to substitute as well. I will beg your forbearance if I have misinterpreted that, please your hand. Bob.

EXECUTIVE DIRECTOR BEAL: I think your advice is correct. You vote this motion, which is move to substitute the TAC at 187,880 for '15 and '16. The board votes that up or down; and then those move forward, the portion that the board just approved as well as the outcome of this. Both those move forward as the substitute for the original motion by Dr. Daniel.

CHAIRMAN BOYLES: Thank you, Bob; does everybody know where we are? Now the motion on the floor is move to substitute the TAC at 187,880 metric tons for 2015 and 2016. This is a motion to substitute. Discussion on the motion? Do we need time to caucus? Yes, time to caucus.

(Whereupon, a caucus was held.)

CHAIRMAN BOYLES: Okay, I direct your attention to the screen. **The motion on the floor is a move to substitute the TAC at 187,880 metric tons for 2015 and 2016.** All those in favor of that motion please signify by

raising your right hand; all those opposed same sign, raise your right hand; abstentions; null votes. **That motion carries by a count of twelve in favor, four in opposition, and one null vote.**

Now, we're back to the main motion. We will ask staff to get the main motion as amended back up on the screen. While staff is getting the motion on the screen, I appreciate your forbearance with me in terms of traffic management. This has been a very good discussion. Certainly, the members of the public, our constituents, thank you for the time that you've invested to come here.

Thank you for your commitment to the resource and for your patience with me as chairman trying to work us through a very difficult and complicated discussion. It would be my suggestion that should this motion carry, which is now the main motion, that I as the board chair would work with the commission leadership to develop a working group to put a framework around what certainly, as evidenced today, will be a very difficult and complicated conversation. It is obvious, I believe, to everyone in the room a very difficult conversation and very difficult decision.

I appreciate the respect and the regard that was exhibited by all; certainly the board members as well as our guests. I think this is something that if we – at least if I'm involved in the conversation, we may get wrapped around the parliamentary axle; so my suggestion would be I work with commission leadership to establish a working group to put a structure on this amendment and bring that back to the board at a future meeting date; if not August, then the annual meeting, so that the board can approve the elements of what would be in this amendment. Is there any objection to that approach? I'm seeing heads nodding around the table. Ms. Fegley.

MS. FEGLEY: I don't have an objection to that approach, but I just wanted to place on the record I think it is a wonderful idea; and that as we're working through that framework – and I think it reflects the thoughts of other states around the table – that that framework also include this idea that we look at these small-capacity fleets and look at options for how to manage those on a different playing field. I just wanted to put that on the record.

MR. BORDEN: Mr. Chairman, I totally agree with that comment; but I just voice the continuing concern here – and it goes back to the comment that Bob Beal made early on the meeting – if the second portion of this is an amendment, then the staff has to go through scoping and do all of the things that are clearly called for under an amendment.

We have the option of making that an addendum; and we do that, we can address some of these concerns faster. At least in my own perspective, I completely agree with your suggestion to form a working group; and if you're going to do that, I think the working group should have the ability to look at that specific question of whether or not we proceed with an amendment or an addendum, consult with staff, and then bring a recommendation back. Thank you.

CHAIRMAN BOYLES: Thank you, Mr. Borden, for pointing that out. I think there is general agreement around the table – I'm seeing heads nod – that we will task the working group with asking what the appropriate management measure may be, whether it is an addendum or an amendment. I'm getting concurrence and heads nodding around the table.

The motion before us now on the floor – back to the very main motion – move that the commission establish a coast-wide TAC at 187,880 metric tons for 2015 and 2016 to promote conservation; and to initiate Amendment 3 to the Atlantic Menhaden

Fishery Management Plan for the development of ecological reference points and allocation.

Dr. Daniel made the original motion, which has been flogged, and I'm not sure I remember who made the second. There is no maker now; it belongs to the Body. The motion is on the floor; do we need time to caucus? Yes, a moment to caucus, please.

(Whereupon, a caucus was held.)

CHAIRMAN BOYLES: All right, this is a final action so we will take a roll call vote. Mike.

MR. WAINE: Maine.

MAINE: Yes.

MR. WAINE: New Hampshire.

NEW HAMPSHIRE: Yes.

MR. WAINE: Commonwealth of Massachusetts.

MASSACHUSETTS: Yes.

MR. WAINE: Rhode Island.

RHODE ISLAND: Yes.

MR. WAINE: Connecticut.

CONNECTICUT: Yes.

MR. WAINE: New York.

NEW YORK: Yes.

MR. WAINE: New Jersey.

NEW JERSEY: Yes.

MR. WAINE: Delaware.

DELAWARE: Yes.

MR. WAINE: Maryland.

MARYLAND: Yes.

MR. WAINE: Potomac River Fisheries Commission.

POTOMAC RIVER FISHERIES COMMISSION: Yes.

MR. WAINE: Commonwealth of Virginia.

VIRGINIA: Yes.

MR. WAINE: North Carolina.

NORTH CAROLINA: Yes.

MR. WAINE: South Carolina.

SOUTH CAROLINA: Yes.

MR. WAINE: Georgia.

GEORGIA: Yes.

MR. WAINE: Florida.

FLORIDA: Yes.

MR. WAINE: National Marine Fisheries Service.

NATIONAL MARINE FISHERIES SERVICE: Yes.

MR. WAINE: U.S. Fish and Wildlife Service.

U.S. FISH AND WILDLIFE SERVICE: No.

CHAIRMAN BOYLES: **That motion carries sixteen votes in favor, one vote against.** That takes us down to our – well, we kind of rolled in Agenda Item 8. Jeff, since this is a question about research direction, I would ask that you would work with us on the working group and talk about that.

ADJOURNMENT

CHAIRMAN BOYLES: At this point is there any other business to come before the Menhaden Management Board? Our business is over; the meeting is adjourned.

(Whereupon, the meeting was adjourned at 12:05 o'clock p.m., May 5, 2015.)

Atlantic States Marine Fisheries Commission

ISFMP Policy Board

August 6, 2015
8:00 – 10:00 a.m.
Alexandria, Virginia

Draft Agenda

The times listed are approximate; the order in which these items will be taken is subject to change; other items may be added as necessary.

1.	Welcome/Call to Order *(L. Daniel)*	8:00 a.m.
2.	Board Consent *(L. Daniel)* • Approval of Agenda • Approval of Proceedings from May 2015	8:00 a.m.
3.	Public Comment	8:05 a.m.
4.	Executive Committee Report (*L. Daniel*)	8:15 a.m.
5.	Review of Stock Rebuilding Performance (*T. Kerns*)	8:30 a.m.
6.	Review and Consider LEC Enforceability Guidelines (*M. Robson*) **Action**	8:55 a.m.
7.	Stock Assessment Updates • Weakfish Stock Assessment Update (*K. Drew*) • Sturgeon Stock Assessment Update (*K. Drew*)	9:05 a.m.
8.	Discuss Implications of Jointly Managed ASMFC Species (*T. Kerns*)	9:15 a.m.
9.	Atlantic Coastal Fish Habitat Partnership Report (*L. Havel*)	9:25 a.m.
10.	Review Horse Creek Aquafarms Sturgeon Transfer (*M. Appelman*)	9:35 a.m.
11.	Review Non-compliance Findings, if Necessary	9:40 a.m.
12.	Other Business	9:40 a.m.
13.	Adjourn	10:00 a.m.

The meeting will be held at the Westin, 400 Courthouse Square, Alexandria, Virginia; 703.253.8600

MEETING OVERVIEW

ISFMP Policy Board Meeting
Thursday, August 6, 2015
8:00 - 10:00 a.m.
Alexandria, Virginia

Chair: Louis Daniel (NC) Assumed Chairmanship: 10/13	Vice Chair: Doug Grout (NH)	Previous Board Meeting: May 6, 2015
Voting Members: ME, NH, MA, RI, CT, NY, NJ, PA, DE, MD, DC, PRFC, VA, NC, SC, GA, FL, NMFS, USFWS (19 votes)		

2. Board Consent

- Approval of Agenda
- Approval of Proceedings from May 6, 2015

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-in 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 Chair will not allow additional public comment on an issue. 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. Executive Committee Report (8:15-8:30 a.m.)

Background

- The Executive Committee will meet on May 4, 2015.

Presentations

- L. Daniel will provide an update of the committees work

Board direction for consideration at this meeting

- none

5. Review of Stock Rebuilding Performance (8:30-8:55 a.m.)

Background

- As part of the ASMFC 2014-2018 Strategic Planning process, the Commission agreed to conduct more frequent reviews of stock status and rebuilding progress.
- The ASMFC's 2015 Action Plan tasks the Policy Board with conducting a review of stock rebuilding performance.

Presentations

- A presentation will be given on the stock rebuilding performance for each species that is managed by the Commission by T. Kerns (**Supplemental Materials**)

Board actions for consideration at this meeting

- Determine if the rebuilding performance for each species is consistent with the Commission Vision and Goals.

- If the performance is not consistent with Vision and Goals, what action should be taken.

6. Review and Consider LEC Enforceability Guidelines (8:55-9:05 a.m.) Action

Background

- The LEC was tasked with updating the Commission's Enforceability Guidelines

Presentations

- M. Robson will present the updated LEC Enforceability Guidelines (**Briefing Materials**)

Board guidance for consideration at this meeting

- Approve LEC Enforceability Guidelines.

7. Stock Assessment Updates (9:05-9:15 a.m.)

Background

- The Benchmark stock assessment for weakfish is scheduled to undergo peer review in 2015
- The Benchmark stock assessment for Atlantic sturgeon is schedule to undergo peer review in 2017.

Presentations

- K. Drew will present an update on progress for the weakfish and sturgeon assessments

Board actions for consideration at this meeting

- None

8. Discuss Implications of Jointly Managed ASMFC Species (9:15-9:25 a.m.)

Background

- Several ASMFC species are jointly managed with NOAA Fisheries and the Regional Management Councils (e.g., summer flounder and bluefish)
- Disconnects in the joint management process can have impacts on state management (e.g., if quotas are not finalized by a certain date, states may not be able to complete the state administrative process in time for the start of state fishery)

Presentations

- T. Kerns will present and overview of the process for jointly managed species and implications when there are disconnects in the process

Board direction for consideration at this meeting

- None

9. Atlantic Coastal Fish Habitat Partnership Report (9:25-9:35 a.m.)

Background

- ACFHP's high scores on their annual performance review to USFWS has allowed for the Partnership to receive an extra $100,000 in funding for operations and on-the-ground restoration projects in FY2015.
- The USFWS has accepted ACFHP's recommendations for project funding in FY2015, and in addition to ACFHP operational support, three projects (Renewing Diadromous

Fish Passage in Patten Stream, ME; Cotton Gin Mill Dam Removal and Fish Passage Project in East Bridgewater, MA; and Cape Fear River Fisheries Enhancement Project in North Carolina) received funding.
- The announcement for FY2016 funding will be released by the end of the month, and ACFHP will be conducting a trial run to incorporate decision support tools into the evaluation criteria this year.

Presentations
- L. Havel will present ACFHP updates.

Board direction for consideration at this meeting
- None

10. Review Horse Creek Aquafarms Sturgeon Transfer (9:35-9:40 a.m.)

Background
- The FMP requires the Board to be informed of all aquaculture activity for Atlantic sturgeon.
- In February 2015, Atlantic sturgeon were sold from LaPaz Group LLC (LaPaz) in North Carolina to Horse Creek Aquafarms in Florida. These fish were sold for the purpose of commercial production and sale of meat and caviar.

Presentations
- M. Appelman will present an overview of the Horse Creek Aquafarms sturgeon transfer.

Board direction for consideration at this meeting
- none

11. Review Non-Compliance Findings, if Necessary

12. Other Business

13. Adjourn

DRAFT PROCEEDINGS OF THE

ATLANTIC STATES MARINE FISHERIES COMMISSION

ISFMP POLICY BOARD

The Westin Alexandria
Alexandria, Virginia
May 6, 2015

These minutes are draft and subject to approval by the ISFMP Policy Board
The Board will review the minutes during its next meeting

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ATTENDANCE

Board Members

Terry Stockwell, ME, proxy for P. Keliher (AA)
Steve Train, ME (GA)
Doug Grout, NH (AA)
Ritchie White, NH (GA)
Sen. David Watters, NH (LA)
David Pierce, MA (AA)
Bill Adler, MA (GA)
Robert Ballou, RI (AA)
Eric Reid, RI, proxy for Sen. Sosnowski (LA)
David Borden, RI (GA)
David Simpson, CT (AA)
Dr. Lance Stewart, CT (GA)
Pat Augustine, NY, proxy for Sen. Boyle (LA)
Jim Gilmore, NY (AA)
Emerson Hasbrouck, NY (GA)
Brandon Muffley, NJ, proxy for D. Chanda (AA)
Tom Fote, NJ (GA)
Adam Nowalsky, NJ, proxy for Asm. Andrzejczak (LA)
Loren Lustig, PA (GA)
Leroy Young, PA, proxy for J. Arway (AA)
John Clark, DE, proxy for D. Saveikis (AA)
Roy Miller, DE (GA)
Craig Pugh, DE, proxy for Rep. Carson (LA)
Tom O'Connell, MD (AA)
Bill Goldsborough, MD (GA)
John Bull, VA (AA)
Louis Daniel, NC (AA)
Martin Gary, PRFC

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

Ex-Officio Members

Staff

Bob Beal
Toni Kerns
Melissa Yuen
Shanna Madsen

Guests

Dennis Abbott, NH
John Bullard, NMFS
Russ Allen, NJ DFW
Rob O'Reilly, VA MRC
Michele Duval, NC DMF
Mark Gibson, RI DEM
Justin LeBlanc, NCFA
Wilson Laney, USFWS
Dan McKiernan, MA DMF
Jack Travelstead, CCA
Raymond Kane, CHOIR
Arnold Leo, Town of E. Hampton

The ISFMP Policy Board of the Atlantic States Marine Fisheries Commission convened in the Edison Ballroom of the Westin Hotel, Alexandria, Virginia, May 6, 2015, and was called to order at 10:35 o'clock a.m. by Chairman Louis B. Daniel, III.

CALL TO ORDER

CHAIRMAN LOUIS B. DANIEL, III: Good morning; sorry for the delay in getting this started. We had a very busy executive committee meeting this morning; and I will provide you with that information here very shortly.

APPROVAL OF AGENDA

CHAIRMAN DANIEL: You should have our agenda. If everyone has had an opportunity to look that over; I do have one other piece of other business for two lobster motions that Toni will talk about here shortly. Is there any other business? Ritchie.

MR. G. RITCHIE WHITE: Jim Gilmore isn't here yet; so Jim Gilmore and myself wanted to have a brief discussion about conservation equivalency.

APPROVAL OF PROCEEDINGS

CHAIRMAN DANIEL: Very good; so ordered. Any other business for consideration now? I will ask again at the end. If everyone has an opportunity to review our proceedings from our February 2015 meeting; if there are no corrections or changes to either the agenda or the minutes, they will stand approved by consensus.

PUBLIC COMMENT

CHAIRMAN DANIEL: Public comment; I don't have anyone signed up to speak. Do you have somebody?

MS. TONI KERNS: There is no one that signed up to speak, but I just wanted to note there was a letter with several slides on your briefing material from Peter Paul on the "Future of our Fisheries" in your briefing materials. I promised him I would note that was there for your consideration.

UPDATE FROM THE EXECUTIVE COMMITTEE MEETING

CHAIRMAN DANIEL: Seeing no hands up in the audience, we will move right into our first agenda item, which is an update from the Executive Committee. We just finished so I should be able to remember this. We did have a closed session to start the meeting to discuss the commission's budget issues.

If you have interest of that nature, then we could talk about that offline. We met our new staff; and they have done a staff survey. I feel that those surveys were very positive; suggested that there are some good opportunities with the commission; and that the leadership is moving in the direction that we're happy with; so just further confidence shown in our executive director in the way that he is moving forward with some pretty sizable staff changes that have occurred.

We look forward to working with and meeting our new FMP coordinators and other commission staff and certainly appreciate those that have been here for a while and have that institutional memory that we need so much. That was the general agreement amongst the Executive Committee is that we do believe that it is important to have our staff wish us for a period of time. We all feel disappointed when we lose those coordinators that we've worked so well with over the years. Many of us expressed very similar concerns about trying to retain our staff and make sure that they're happy. They can always come and talk to me or certainly their leadership has an open-door policy.

I believe the general sense of the Executive Committee was pleased with what is going on. Any questions on that part of the discussion and is there anyone from the Executive Committee

who would like add to that? I was asked how I was going to present that and I did my best. The Administrative Oversight Committee presented the budget; and that was approved. I don't believe we need to do that again, so I think we're all good with the budget.

We had some very good discussion on the appeals' criteria. We've recently had two appeals on striped bass. Many of us have never dealt with an appeal before; and so a lot of questions have arisen as to what the appeal process is and why it is established the way it is. We have made some decisions in moving forward that instead of the appeal deciders being the chair, vice-chair and immediate past chair would be that we're going to task that with the AOC.

That provides us with more broad opinion. It allows for our governors' appointees, legislative appointees, as well as our leadership to have role in making the decision on whether to grant an appeal or not. We've also discussed ways to streamline the appeal process, narrow that window just a little bit, and we'll be working with staff and our staff attorney to develop those issues. I believe we will discuss that our August Executive Committee Meeting. The AOC is going to be busy over the summer. Anything else on the appeals' issue? Doug.

MR. DOUGLAS E. GROUT: Just a brief clarification for some of the Policy Board members that aren't involved with the appeal; the suggested changes was for the AOC to be the body that is going to determine whether there is validity in the appeal; because our appeal process originally said that the chair, vice-chair and past chair determined the validity; and if was determined to be valid, it would come to the Policy Board for full consideration.

They're sort of the filter to see if the appealers met one of the five criteria that are in our appeal process. Then it comes to the full Policy Board if we feel that it meets one of those criteria for a decision. They aren't the final arbitrators, in other words.

CHAIRMAN DANIEL: Thank you for that clarification. That was the meat of our discussion was in the appeals' process. I thought we had a very good discussion about that. We've also asked the Administrative Oversight Committee to look at the way that we handle committee reports from our advisory panels and Law Enforcement Committee and perhaps even technical committees based on some concerns that were expressed at the Executive Committee level. The AOC will be looking at that issue as well.

I've got some folks I'd like to talk to and try to structure the – not restructure but get some new membership on to the AOC and try to make sure that we've got good coverage on that committee. Anything else from any Executive Committee members on issues I forgot; but hopefully that covers our Executive Committee Meeting. Any questions?

DISCUSSION OF 2014
COMMISSIONER SURVEY RESULTS

CHAIRMAN DANIEL: Okay, the next item on the agenda is the commissioner survey results; and I'll turn that over to Toni.

MS. KERNS: I'd like to thank Louis and Doug for helping me revise the commissioner survey. We did make it shorter this year. I think it had a positive effect because 35 commissioners filled it out, which is the highest number we've ever had in participation; so thank you, all. I'm going to report out on the items where we received less than 7.5 in satisfaction; so a 10 is very satisfied and zero is not satisfied at all with how things are going.

As a reminder this survey is to measure the progress that commissioners feel that they are making in their role as the commission and how the commission is moving forward with our vision and goals. The first item where we had

less than 7.5 percent or 7.5 satisfaction is the level of cooperation with our federal partners.

We saw that level of cooperation; I don't think that folks have felt much has changed since last year; although over the time period we have been moving forward in an upward direction for the most part. Next is the commissioners' relationship with constituents is just below 7.5. We've sort of steadily been moving forward with a small dip in the last year.

Then how well we are doing in securing fiscal resources; we've had a drop down. Folks have felt that we're not doing quite as well this year as we did last year. Then we added a couple of new questions to the survey. There is no time series for these questions; but how satisfied are you with the commission's progress to end overfishing. This is our lowest-scoring question with a 6.66.

Then how satisfied are you with the commission's ability to manage rebuilt stocks; and that is just over 7 out of 7.17. Lastly is how satisfied are you with the products of the ISFMP and Science Department; and respectively the scores were 7.5 and 7.0. Some of the open-ended questions; the biggest obstacle to success; some of the common themes that we saw are coordination with other entities, either councils or fishing groups; baseline shifts over the past decades as well as climate change; accurate, credible science that may lead to correct decisions.

Rebuilding stocks is not a function of managing fishing effort only; we also have to look at natural mortality and non-fishing-induced human mortality, which the commission has little control over. On the management side, too many states are willing to vote for tough measures for other states while jealousy is guarding their own shares.

Some of the more useful commission products that you reported back on our FMPs with clear objectives; the website, briefing documents well in advance of the quarterly meetings, our press releases, Fisheries Focus, and species overviews;, and stock assessments, especially the annual summaries of stock status and trends.

Additional material that you feel might be useful to commissioners to help you do your jobs better; regularly scheduled informational webinars for the evenings for the general public on issues of interest to try to draw in more participation by our constituents as well as states could benefit by more outreach from the commission that explains to the states that fishermen may have flexibility in many aspects of forming final ASMFC decisions. That is in the theme of getting your constituents more involved in the commission.

You felt like we could expand on some of the annual summaries of stock status and trends in more laymen's terms; again, this theme of information for constituents; and improving some of the decision documents that we provide prior to management decisions. We could also focus some more time on ecosystem-based management, climate change, ocean acidification; either getting rid of the species on the commission's list that don't have action on them in the recent years or develop a timeline to have those species assessed so that we can start considering action for those species.

We need to find a better way to incorporate habitat into our fisheries management plans; mitigate the regulatory whiplash we've seen in some of our species' management; have cooperation between the states as well as our federal partners; and to focus more time on the different legislative reauthorization such as Magnuson and ACFCMA; also put more time on commissioner training and shifting species' distributions and reallocations between the states and sectors.

Other comments that were in the general category was to revisit the purpose of compliance reports; look at the meeting time

scheduling. We sometimes spend too much time for some species and not enough on the more important species. Excluding stakeholders from meaningful input during the stock assessment process and other scientific inquiries undermines the quality of the commission's work.

We need to improve the use of the Management and Science Committee. They do a lot of good work, but its contributions are not always fully appreciated by the board. I thought I would end on a very positive comment on staff. While fisheries' management through the commission is often slow and frustrating, it is hard to think of an alternative that would work better and that is thanks to the excellent work done by staff that do a phenomenal job on a very tight budget. We appreciate those positive comments to staff greatly.

I thought we could go back to some of the measures where we had lower scores and if we could have a quick discussion on ways that maybe would work on improving some of these relationships, either with our federal partners or our constituents to start with and then move down to see how we can help you do these things better to improve our scores for next year.

CHAIRMAN DANIEL: I guess the first one is we ranked cooperation with federal partners fairly low in comparison to some of the others. Are there comments or suggestions on how we might improve that? Ritchie.

MR. WHITE: Not a comment on how to improve, but I would look at that as being pretty consistent; you know, 7.21 to 6.8, I don't think that has changed much. We had that one dip. You have a turnover in commissioners and the commissioners might rate things a little bit differently, new commissioners coming in. I don't see that as a big negative from the standpoint of a change. I think it has been pretty consistent.

MR. PATRICK AUGUSTINE: The question that came to my mind when we talk about cooperation with federal partners; are we talking strictly about financial support? I looked at that as a broader picture, federal partners being council. Is there a distinction that you were trying to make here?

If we're talking primarily financial, it seems to me that as hard as we're working to get more money to support our activities, we're just not getting there. The money is not there. The budgets are being cut and so on. If you want to address that, I would like to talk about that. Is it taking Mr. Bullard and putting him against the wall and tacking him up and saying, "Hey, we need more money" or is it NMFS or is it right at the top to our new NOAA director? It just seems to me that the way our case is being presented in the past has been good; but we're nice people.

We're not nasty people. We're not demanding that we need this to support our activities. We are supporting an economy for all 15 states.

Maybe our cell picture has to be much more the total economic impact, individually and collectively, that we're having on the east coast economic position. It just seems to me that we've got to break down which way we want to go, decide not to be nice people anymore and get real aggressive. I'm not sure going to our congressman is going to make it happen.

If the money is being allocated to NOAA, it seems that we've got to go either to NOAA; if we can't get it from them, get some from NMFS; but I think it has got to come right from very top and concentrate our efforts on that; expand this. Now we're going to have states taking over MRIP. What is going to happen there if in fact the states really don't have the ongoing support from the financial side, from NOAA, money that is being allocated to the states? I'm looking beyond that.

Will the states turn around and say, "Hey, thank you very much. We don't have any state money because now your budget is going to be cut again to do the job." In terms of looking at the direction that we're going, if we're going to go state by state for MRIP as one of the major programs that is going to support our activities in the future, it seems to me that we've got to go back to the top, hit NOAA at the top and say here is what it is going to take; and we don't need it for one year. We want to put this plan out there for five or ten years; and just basically demand it. That is that side.

On the other side of it, if we're talking about federal partners from the councils; are we getting our fair share of when stocks are rebuilt? One of the next slides that will come up will talk to that; are we getting the biggest bang for our buck? We're doing what we can to rebuild our stocks and yet do our fishermen, commercial and recreational, gain benefit from it having had done that? When we get to that slide, I'd like to address that again. Would you like to address either one of those, Mr. Chairman? I would like to hear your answer.

CHAIRMAN DANIEL: I don't think that the question is related to financial issues particularly. I think that it is a conglomerate of opinion. My opinion may be different one day and then the next, depending upon the answers I get from NMFS, when I fill out the survey, but I personally see that we're seeing some improved communication with NMFS.

I certainly appreciate the fact that Mr. Bullard is here; and he comes so that he can meet with the commission and the state directors. I think that is a positive thing. I've love to see more of that from our South Atlantic partners; and I don't think that would surprise them. I mean, it was wonderful to see Heather. She was here for about an hour, a representative from the South Atlantic; but we don't tend to get that same level.

I think some of the frustration, though, is the financial part. The fact that the money is going up in the budget for the councils and the commissions, but we're staying steady and not seeing those increases, I don't think we sell ourselves very well when it comes to the information that we provide to the National Marine Fisheries Service and the council process.

I feel more and more strongly about that all the time in that if we weren't going out to the fish houses and we weren't collecting the information and aging the fish and sending staff to the SEDARs and to the stock assessment things; what would they do? We're a critical cog in the management wheel, but we don't seem to have any leverage with all that information.

I'm a $25 million agency that collects tremendous amounts of fisheries-independent and fisheries-dependent data. What if I withheld that information from the federal government and said, "You want it; you pay for it." We're not doing that and unless we all collectively develop that clout, I don't see things are going to really change that much. Eileen I think is interested. She participated in the San Diego Meeting. She is very approachable, I think. But I think until we move in some type of direction like that, that we're probably going to get the hind you know what on a regular basis. That is my opinion to your comments. Tom Fote.

MR. THOMAS FOTE: I guess unlike Pat, I looked at it strictly on how we basically communicate what we're doing on certain species; and I'll just bring up three instances in the last two years. One was winter flounder. Here we have strict regulations at the commission level; and all of a sudden we're putting 5,000 pound trip limits up in the New England Council without any consultation with the Atlantic States Marine Fisheries Commission on a stock we're supposed to be jointly managing.

The other one was the listing of sturgeon by the National Marine Fisheries Service, which cost the states a lot of money, a lot of time and a lot of effort. There was one agency – and I won't get them into an agency argument here; but there was one agency that did not support the listing. We didn't support the listing; and yet they went ahead with the listing, which caused us all kinds of problems at the state level.

Then I look at the management of black sea bass, summer flounder and scup; and we've been in this Catch-22. I remember asking the question, and not only me, one of the head scientists at the same time asking the question when are we going to go from a Tier 3 or a Tier 4 to a Tier 3. It seems we have the most information about summer flounder, when are they going to go to a Tier 1 and 2. He says it will probably never happen. I said, "Well, that is not the way you work this game." So we're taking away quota.

Again, on the research set-aside things, there were a few things done; so I think some of that is being corrected by the Mid-Atlantic Council. That is what I'm looking at is cooperation; and in those four instances they didn't shine, and that is one of the reasons I always rate it low. I know, Louis, you were not happy with the listing and were as unhappy as I was on that without any consultation that we felt was meaningful.

DR. DAVID PIERCE: Setting discussions about fiscal matters and budgetary concerns; I'll focus on the kind of cooperation with federal partners; and I speak with sort of a parochial interest here, New England, Massachusetts. This is through ASMFC and, of course, through the New England Council; and that is in recent years I've seen a dramatic turnaround with regard to cooperation with federal partners, specifically with the National Marine Fisheries Service in our region, the regional office, and the Northeast Fisheries Science Center.

The reasons for that have been John Bullard. Okay, you've already mentioned him; he is here, always open for opinion and looking for compromise and to provide federal assistance in looking for reciprocation and we assist him. Then there is the Northeast Fisheries Science Center with Dr. Bill Karp, new on the scene.

Frankly, I think that our relationship, the ASMFC relationship, and the council relationship with the Northeast Fisheries Science Center has improved dramatically because of the leadership of Dr. Karp. Let's face it, it all comes down to personalities, who is sitting in the seat, relationships have developed. That is key to cooperation. With that said, I would suggest as a way to increase cooperation with federal partners, we need to do something – it is especially important now because of new staff.

The new ASMFC staff and those who have been on the staff for a while need to focus on, even more so than before, developing an understanding of the federal partners in terms of those individuals within the different offices, the staff, develop relationships between staff, regional office staff, working with specific plans, specific issues, and ASMFC staff.

I know it happens now and Toni has done a good job with that and Bob Beal has done a good job with that; but there needs to be more of a focus on that. I see that once that acknowledgement of the other's existence and the importance of the other occurs, then you get that exchange, you get that cooperation, you get a willingness to listen more so than ever before.

There is no substitute for staff interaction to assist the decision-makers when we come here and at other times. That is my suggestion. If we want to increase cooperation, we have to make sure we have that continued communication with the other groups, with our federal partners, and that means that we should take the initiative to communicate with

them before they communicate with us, just to get that going.

I've seen that happen on issues specific to New England where my agency – this is I guess every agency around the table does this – know who the players are; and when you know who the players are, things can get done, corners can be cut. Not inappropriately but in an appropriate way corners can be cut and timely actions can be taken. Paperwork can be cut down and we get some end results that are of benefit to ASMFC and also to our federal partners.

MR. LOREN W. LUSTIG: Looking at the graph, I am focused on the low numbers for 2010 and 2013. I had just started my tenure with the commission at 2010, so I can't comment about that; but the 2013 data I believe – in response to what Tom brought up, I believe that was the year that we were discussing the Endangered Species Act and sturgeon and the implications of unfunded mandates.

Boy, I was really intrigued with the impassioned pleas that came from the table here; and sometimes I thought it was falling on deaf ears; and so thus the low scores there. I certainly can honor what Dr. Pierce just said about cooperation and hopefully there is real good listening that is done both ways and good cooperation in the future. Thank you.

MR. WILLIAM A. ADLER: Yes, generally, I'm agreeing with Tom Fote on this particular thing and cooperation with regard to how we do management issues and then the councils and NOAA do their thing. Over the years I've seen where they've come out with different numbers; and it has always been that we have to reconsider; not them reconsidering their decision; and that has always got to me.

It is along those lines of cooperation where it seems like we don't have the force that when the ASMFC speaks, the federal councils and NOAA have to consider what we said as important, very important, and maybe adjust their way of thinking more towards us. That is what has always been egging at me. Thank you.

CHAIRMAN DANIEL: We're going to move on to the next item. Thanks for your comments.

MS. KERNS: In the survey and other comments as open-ended suggestions; there were suggestions on some improved outreach materials, ISFMP materials, whether that be webinars or better decision documents and documents with clear statements of the problem. I think that staff can work together to provide some of that information and make some changes to how we're providing information to you as well as the public to help with our relationships with our constituents and providing information to improve decision-making there. Unless there are additional suggestions, we can work with what was in the survey.

MR. ADLER: Toni, better decision documents; any idea what that means making it a better decision document than what you already give us?

MS. KERNS: I think we don't always do these decision trees, is what we've been sort of calling them, when we have FMPs that we're making changes to either addendums or amendments, sort of providing a one-pager or a couple-pager so that you can clearly see what decisions you're making if you have to go on to a different – if you have a decision that is dependent on the decision beforehand; those types of decision trees.

We don't always do them and the ISFMP staff has been brainstorming about ways to improve those for the past couple of months. In August where we have several FMPs that we will be taking final action on, you will be seeing some new decision trees to help improve those. Those come to the meetings so the public can see them as well.

MR. FOTE: It is interesting; this is one of the areas that basically when I go to talk about

public hearings, I always point it as the best examples of what we do at the Atlantic States Marine Fisheries Commission. You make the hearings at night. We provide information. We answer questions during the presentation about the science and what is going on.

Then we're given the opportunity for comments. I'm used to going to the Army Corps of Engineer hearings where you don't get any of that or the Department of Interior, which has gotten worse over the years. I always point out that they should be conducting their hearings the same way that we do, because I think it is a highlight of how we do things right.

The problem we're running into – and I think this is a problem with the internet that people rely on – is that when I used to have striped bass hearings in New Jersey, and this last time I thought I would have the same type of relationships. We at one point had three hearings with 900 people, 750; and the small hearing had 550; where now we're lucky to get 50 people.

A summer flounder hearing, which was important, we're lucky to get 15 people and most of the states are seeing the same problem. I think we've got to figure out how we do this in the new age a little differently, maybe. We were talking about doing an app. Somebody told me that and I said apps don't work on my flip phone, but everybody else seems to have a Smartphone. That is one of the problems, but I think what we do as far as hearings and scoping meetings are a fine example of how it is done right.

MS. KERNS: I think we've already talked about fiscal resources; so we can go down to just the last one. I don't know how much of an extensive discussion we can have; but if commissioners have ideas for ways that we can help move us forward in ending overfishing as well as our ability to manage overfished stocks, we're here to hear your suggestions. Over time give Pat or I a call, Bob a call.

CHAIRMAN DANIEL: No comments on this one? Tom.

MR. FOTE: I guess I'm in a speaking mood this morning. When I look at overfishing, it has gotten a strange definition of what is overfishing. We've got species like summer flounder, scup and sea bass that are not supposed to be overfished and overfishing is not taking place. They were fishing at some of the lowest quotas we've ever fished on those stocks.

We don't seem to be doing – as far as our constituents are doing them any good, we seem to be doing worse on that; but those are jointly managed plans. Some of the species that we look at, like weakfish, I mean, I just ripped whatever few hairs I have left out on weakfish; so I think we did everything right. There was other reasons that it basically went down the tubes; and I'm still trying to figure that one out; and I think a bunch of us around the table are still figuring out.

We blamed it on some unforeseen mortality; but I think we do a good job of trying to rebuild the stocks. The problem is when we get to that point, how do we handle some of those stocks. I don't really think the commission is having the problem of ending overfishing. We have done that where we can. I mean, some species like sturgeon are going to take us a long time. Some species like shad and river hearing, there's a lot of other reasons besides our fishermen. There is not much more we can do but put in a moratorium. I mean, we're trying to rebuild the stock. I don't see that is the same problem as I see other issues.

CHAIRMAN DANIEL: Well, that is kind of it. I feel like this exercise – I mean are we getting what we need out of this exercise? If we can go back; those are pretty significant issues, particularly the last one. I can't quite figure that one out. I mean just from my own personal opinion, I feel like our documents are models; and certainly the products that we're

getting – folks that ranked that so low, it is your responsibility to let us know, let the leadership of the commission know what the concerns are there, because that is the most alarming result from my perspective.

I just don't see it from what I review; so please take the time to talk with Toni and Bob and provide them with some constructive feedback on what that means. I think that is important. The other ones are tough, because there are a lot of issues that are going on that we can't really control. Somehow we need to get to the questions that get to that point.

I think I can answer your question, Tom, on weakfish; that there is a population south of Hatteras. I wish I could prove it, but I can prove it by telling you that the catch-per-unit effort on the dock at my office is about 50 fish an hour per person at 16 to 20 inches; but I'm still at a one-fish bag limit.

There a lot of frustration out there for that; so how do we address them; and that's tough. I think looking at menhaden, the decisions we made yesterday, when was the last time we had a positive article from Saving Seafood and Pew on the same vote? That is pretty danged good. I think we're moving in that direction pretty favorably. I think we need to spend a little more time thinking about these three things and providing our feedback and input to the commission staff, if that's your pleasure. Doug.

MR. GROUT: Well, this was one of the new questions – originally I was discussing this Toni – that was asked how are we making progress on rebuilding stocks. I felt it was more important that we get at are we ending overfishing, because we have some stocks that we have ended overfishing on, but they're not rebuilding for whatever reason.

I'm just hoping that the commissioners, when they look at this, that they took it into consideration. For example, winter flounder in Southern New England is at very low levels; but we've ended overfishing in that. The same thing with Southern New England Lobsters; we've reduced the exploitation level down to very low levels so that we're technically not overfishing, but we have not rebuilt that stock at all.

We've taken these actions that have affected – as Tom has said, we've cut fishing mortality on a lot of stocks drastically here to try and end overfishing here. Personally I gave us a fairly good score on this, but I just want to make sure that people aren't confusing overfished, which is the abundance levels have not gone up, with overfishing. Maybe it was clear in the questionnaire here what the difference was, but I'll be interested to see how this comes out in the future years.

MR. WHITE: I think overall the survey is worthwhile and we should continue to do it. I guess I would just caution us to not look at these numbers through too fine a lens. I think we can get wrapped around a small point change when the variables of the difference in the amount of commissioners answering it, the change in commissioners – I think a lot of that can account for the small up and downs that we're seeing; and I think it is more important to look at the five, six eight-year trend in these questions. From that standpoint, I think it is well worth that we continue to do this.

MR. JOHN CLARK: If I'm not mistaken, this was one of those surveys where you chose a dot right on the spectrum; and I just I think most people a lot of times, you're kind of like, well, you know, I don't want to put that top dot on there or something. I mean, a lot of those – like that one graph you had where we went from 7.9 to a 7.5, what does that really even mean?

I was just wondering have you thought – I know it would be tough to change the survey design, but maybe one of those ones where you have like statements and you choose which statement you agree with rather than just trying to rank it. I think what you tend to get with these types of surveys is you tend to get seven

to, you know, like seven to eight, in that range, on a lot of answers and then it becomes hard to interpret.

MR. AUGUSTINE: Mr. Chairman, we haven't talked about cormorants and seals to help end overfishing. I'd like to think outside the box. It's kind of a federal issue; and people don't want to talk about it because they like seals and they apparently like cormorants. I had a conversation with a director of Audubon from New York City. I had suggested to her that we should try to control the cormorants.

We did do that – I think Jim may have been involved with it – up at Lake Ontario when they had pretty much taken over and wiping out everything from perch to striped bass – I'm sorry, perch to bass to anything in sight. The cormorants were populated to a point where they had taken over several of the small islands called the Galloos, which used to be a gray granite which then turned out to be a white crap, if you will. They put together an order with Fish and Wildlife to take out a number of those through oiling their eggs and so on.

I know it is a federal issue and they're both protected; I think cormorants since 1976. To make a long story short, the group was successful up in Lake Ontario to oil and eliminate many, many pairs of cormorants to bring them back into control; and lo and behold, all of the fish populations came back relatively well, very successfully in a matter of years.

If you wanted to hear about the success of that, you could probably have Jim tell you about that. It seems to me both those animals have been protected for such a long time. The director from the Audubon Group says, "Gee, if you're going to kill them, we'll help you, but you can't have our name on the contract."

She was referring the fact that the shorebird, the walking bird population in and around New York has been very, very much threatened. Those numbers are down 75 to 80 percent of their historical levels by virtue of the cormorant population having taken over their areas. In a very serious vein, if there was some way that maybe we, the states, could start a movement in the direction of getting cormorants unlisted because of the magnitude of the population now, maybe, just maybe we could reduce some of the mortality rate that they're creating.

Seals are another story. People want to pet them and make them feel good until they get on your boat and rip it up and then it is another story. A bird and an animal that are continuing to really wipe out the winter flounder population in particular – I'm not sure about weakfish. That would be down in your area and you could talk about that – but both of them are really affecting the environment.

We have been led to believe in New York that the gray seals have moved down along the coastline and are now taking over the area off of Block Island. We'll put it on the record and you'll hear me say this again, but I wonder if ASMFC would be bold enough to start a movement to get either one or the other unlisted so we can put some control on them. Seals I thought we could actually package them up and send them somewhere, use them for food. Cormorants, I thought they would be good, but they're very oily and greasy. The feathers might be good for new pillows; but having said that, I'll stop.

CHAIRMAN DANIEL: I do not want a cormorant pillow. (Laughter) That ain't going to happen. They would be awesome target practice, though, when you're getting ready to go duck hunting. I can assure you that we could take care of plenty of cormorants in Core Sound. Dave Borden.

MR. DAVID V.D. BORDEN: Pat is always a difficult act to follow. Maybe we could process some of these for fish sandwiches; but on a serious note what Pat is characterizing is actually a very serious problem in terms of

colony-nesting birds. What I'm referring to there, so everyone is clear, is birds like glossy ibis, which nest in trees.

What happens is the cormorants basically – having had responsibility for this formerly in Rhode Island; cormorants would take over an island that was a colony-nesting site. After a while they use it for a nesting site also, which is fine as long as their density doesn't get too great; but when the density gets great, they produce so much guano on the island they kill the trees off and destroy the nesting habitat.

My only suggestion here is I think this warrants a dialogue; and it might be a good idea to have the Chair put together a small committee to meet with the U.S. Fish and Wildlife Service staff, some NMFS staff and appropriate other organizations in try to figure out a coordinated policy. I'd also note for the record this is a trans-boundary species that goes up to Canada and it receives no protection up there as far as I know. Thank you.

CHAIRMAN DANIEL: We'll call it the Guano Group. I've heard it my whole career and the problems seems to become worse and worse. The research that is done and the amount of fish that are consumed by these huge populations certainly have to have a significant effect. Some people will want to say, well, that's natural mortality. Well, it is severely expanded natural mortality.

If anyone is interested in sitting on a group like that, see me after the meeting. I'll put something together so we can maybe get the assistance from our Fish and Wildlife Service partner, too, and try to see what our options are moving forward with that. Any further comments on the survey? It sounds like it will continue to be a work in progress; but if it is seen as useful, I think we should continue.

I agree with Ritchie's comments primarily that it is – and I think John as well – that it is hard to discern trends, but we do know what a lot of us are thinking and what we're saying around the table. It does tend to match up a little bit with some of the concerns that we hear except for that last one. I haven't heard those comments; and I'm concerned about those.

Certainly, I think we need to try to keep some of these things in mind and maybe staff can remind us when we're getting ready to make a decision, maybe remind the chairman of the committee, well, hey, this is inconsistent with what you said you wanted to improve in your surveys. Maybe that would light us up little bit and maybe not, but don't get angry with the staff from reminding you, though, what you said you wanted us to do.

REVIEW AND APPROVAL OF STOCK STATUS DEFINITION REVISIONS

The next item on the agenda is a review and approval of stock status definitions. We have beat this to death and the cat is about as flat as it is going to get. We're either going to have these definitions or we're just going to punt; so please no more wordsmithing of these unless it is just absolutely the most critical thing that you're not to going to be able to sleep tonight unless you say something.

I think the staff has done a great job and they have admonished me no wordsmithing of these things anymore; and I kind of agreed with them. I had a couple of suggestions, but I wouldn't make them now for love nor money. With that introduction; Toni, would you like to take us through the definitions.

MS. KERNS: These definitions, you've seen them before. Staff made the suggested changes from the August and October meeting. We pushed this off of the agenda from February due to the time constraints of the meeting. Would you like me to read the definitions?

CHAIRMAN DANIEL: I think they can read them.

MS. KERNS: We have definitions now that are one and the same for rebuilt and sustainable; recovering and rebuilding; unknown; depleted; and species of concern. We also have definitions for overfished and overfishing; stable; unchanged; and a definition for a stock assessment update. Some of these we just pulled definitions – as a reminder, we use these definitions in many different commission products.

We want to have consistent definitions in all of our products; so we would use them for all of them. Then, lastly, Kelly had let the board know back in October that there would be proposed guidelines coming out in National Standard 1 for depleted stocks. Those guidelines are out still as proposed. A depleted stock is a stock whose biomass has declined as a result of habitat and other environmental conditions as opposed to fishing pressure, which is similar to our definition, which says a depleted stock reflects low levels of abundance; though it is unclear whether fishing mortality is the primary cause for the reduced stock size.

The National Standard 1 Guidelines go to give timeframes, either it being two generations or that the timeframe for which it is supposed to rebuild has not happened even though they have followed the catch levels that are associated in the FMP. Our definition is just a little bit more broad in general but somewhat similar. That's all I have.

CHAIRMAN DANIEL: I'd like to get a motion to approve the whole thing, but I would like to make sure, though, with all kidding aside, that everybody is comfortable and good with these. Pat.

MR. AUGUSTINE: Are you looking for a motion now?

CHAIRMAN DANIEL: Please.

MR. AUGUSTINE: So moved to approve the new stock definitions – do you want it as stock definition or do you want –

CHAIRMAN DANIEL: If it is the pleasure of the board to do the whole document would be great.

MR. AUGUSTINE: I couldn't find anything through it that would – you know, I can play with words and we all could play with words; but, indeed, it is a well-developed document and well presented. **I would make a motion to accept as presented all of the stock definitions.**

CHAIRMAN DANIEL: Motion by Mr. Augustine; seconded by Mr. Adler. Yes, Adam.

MR. ADAM NOWALSKY: I'm certainly not going to offer any changes to this at this point; but I did want to at least get on the record and possibly hear from some other commissioners. It struck as we were going through menhaden that with the decision that we made yesterday, we basically enacted a TAC for 2015 that had a 2 percent probability of achieving overfishing; but we had a lot of conversation about the target level.

That was obviously a concern to a lot of commissioners and has obviously been a concern to a lot of the public. What struck me, as I was looking at the document, is that we have no terms to describe our stocks relative to the target necessarily. It is something that I think in the future – I'm certainly not proposing anything here now; but for the sake of telling the public something with these definitions, we could spin the menhaden very differently.

We could spin it as the TAC we came up with has a greater than 50 percent probability of exceeding the target or we could spin it as it has a 2 percent probability of resulting in overfishing. I think if you put either of those in words down on paper and people read them, they would have a very different viewpoint of what our actions said. Again, I don't think it is

anything – nothing is going to change here today; but I think it is something it would behoove this commission to consider moving forward how we express that. I think it is important to the public. I think it is important it goes back to the constituent conversation we had a couple minutes ago and the perception of our actions here. Thank you.

CHAIRMAN DANIEL: Other comments? I wish I knew how to address that because I agree with you. It is a difficult task. I think a lot of that is done in the individual plans; but it is a tough definition sometimes and there is a continuum there that is hard to pinpoint sometimes; but good comments. All right, seeing no other discussion, is there any objection to the motion**? Seeing none; that motion carries unanimously.**

ASSESSMENT SCIENCE COMMITTEE REPORT

CHAIRMAN DANIEL: Next up, we will discuss the Assessment Science Committee Report; and this is an action item to update the stock assessment schedule. Shanna will handle that for us.

MS. SHANNA L. MADSEN: The Assessment Science Committee recently met during its spring meeting in April of 2015. We just have a couple of recommendations that we wanted to bring before the board to be approved. To start, we have two quick changes to make to the Technical Committee Guidance Document.

The first one is a clarification on the timing for alternate analysis submission for a benchmark assessment. The second one is an addition of a Fisheries-Independent Data Use Policy. I'll run through the two of these for you. Firstly, right now members of the public wishing to submit an alternate analysis for a stock assessment must submit the analysis at least one month prior to the workshop; the reason being is that this gives the stock assessment subcommittee some time to evaluate these analyses and determine their applicability.

Now, recently some of our assessments have required more than one assessment workshop; so we have encountered sometimes what have been requests for alternate analysis submission at a supplement assessment workshop. This could be an issue if the stock assessment subcommittee members had already come to consensus on a model and then are brought forward with another model that they need to take time to review.

The Assessment Science Committee reviewed this policy and would like to recommend that the alternate analyses be submitted before the first assessment workshop. This should hopefully provide sufficient time for stock assessment subcommittees to review any alternate analyses. We have added just a little bit of additional language to the Technical Committee Guidance Document.

I have that pulled up here. The Assessment Workshop Section of the Technical Committee Guidance Document was actually in your Policy Board meeting materials. The additional language that we crafted is highlighted; so basically just made a change to one sentence in the document.

Now the sentence will read, "For analyses to be considered for the assessment, the analyses must be sent in the required format with accompanying methods' descriptions to the commission at least one month prior to the first assessment workshop to allow for consideration at the workshop and any subsequent workshops." That is just one of the changes that we suggested being made, and we will discuss that at the end of this presentation.

The second thing that we wanted to add to the Technical Committee Guidance Document is a Fisheries-Independent Data-Use Policy. Currently, if anyone outside of a stock assessment subcommittee requests raw data from assessments, the commission will refer the requesters back to the data providers. Essentially, this was just an unwritten rule that

we had, and this will provide a formalized policy to kind of alleviate providers' concerns with their data being utilized outside of the commission's stock assessment reports.

The Data-Use Policy is designed to clarify how data will be used during and after the assessment to inform fisheries' management decisions while making sure to protect the rights of data providers. The ASC reviewed this document, which can also be found in your meeting materials, and we recommended having this integrated into the Technical Committee Guidance Document as well.

I know this is a little bit small, but this is also in your meeting materials if you guys want to run through it there. First of all, I'll start off with some of the changes that the ASC recommended to the Stock Assessment Schedule. First of all, the Shad and River Herring Technical Committee has requested a shad stock assessment update for 2017; the reason being that it has been ten years since the last assessment with no updates. They recommend a review of the status and trends.

The technical committee did say that when they begin data collection in 2017 they will evaluate if enough new data has been accumulated to warrant a benchmark in place of an update. The timeframe may need to be adjusted if a benchmark is necessary. The ASC agreed with the technical committee recommendation and placed that on the stock assessment schedule for 2017.

The Shad and River Herring Technical Committee also suggested a river herring assessment update in five years and a benchmark in ten years after the last assessment; so the ASC agreed with the technical committee recommendations and added an update for 2018. Those were the two changes that we had to the assessment schedule.

Then I'm just going to run through and keep you guys in the loop on what we have coming up. Striped bass will go through an update this year to get their stock status through 2014. I know we talked about that yesterday. Bluefish and scup both had an assessment workshop last month; and they will be reviewed through the SARC Process in June of this year.

Lobsters' final stock assessment subcommittee meeting was last week. They are scheduled for their review on the second week of June. Red drum is on the schedule for a SEDAR Review in August of this year. Weakfish currently has an assessment workshop planned for early this summer; and they will go through an ASMFC external review this fall.

Black sea bass will have a data workshop in June. Their planned assessment workshop will be in September and October with their assessment review planned for March 2016 as an ASMFC external review. For spot and croaker, both assessments will be on the same schedule since there will be a lot of overlap with the people who are working on them, as well as the data sources. They will have a SEDAR Review in August 2016.

Those are all of the updates that we had to the schedule. I just wanted to finish the presentation keeping you guys abreast of our Stock Assessment Training Program. The ASC discussed getting our Stock Assessment Training Program back up and running. We've created a survey to get input from ASC members as well as our past participants and any supervisors so they can let us know what they would like to have their staff focusing on.

We will be giving an advance course and an introductory and intermediate course. The results to that survey should be coming soon. I just closed the surveys last week, and it should let us know what topics people would like to see in our upcoming training series. With that, I will take any questions and we can discuss the changes that we have to the Technical

Committee Guidance Document as well as the assessment schedule.

MR. AUGUSTINE: Boy, am I glad to be back! If you'd flip back to list of all of the stocks that we are managing; other species that are listed up there that we have done nothing with in 10 or 15 years, it looks there is maybe five. I have two questions. One is are we ever going to do anything with them or do we just carry the responsibility for them?

If we aren't in the next – pick a number – five years, why don't we take them off the list – off the main list and put them down at the bottom and bracket them as whatever you want to call them, species of concern or whatever, but we're not doing anything with them. When that chart goes out to the public, every time I make a presentation I get asked questions; what are you doing with these? Really, I think it takes away from the value added on what this body does in terms of stock assessments and so on.

I would like to get the opinion of other board members relative to that. Look at the chart and there are four or five we do nothing with; but they're there and we are accountable. Anyone interested in moving those down to a place where they're encapsulated together so all the good work is shown at the top and these are things that are still being considered. I think it is a homerun for us if we consider doing that.

CHAIRMAN DANIEL: I like homeruns. Would you like to comment?

MR. GROUT: Pat, I guess I'm not seeing what you're seeing. I see spotted seatrout is the only one that doesn't have anything on there. Spot is going to be done in 2016; something we haven't done it the past; so we've got that on there. The other one is sturgeon and we've got that in 2017. The only one I see where we haven't done anything on this chart and don't have something scheduled is spotted seatrout. You were talking about five of them and I'm just not seeing that.

MR. AUGUSTINE: From here it looks like more. Okay, maybe it is just the one, so then we'll ask the question – the follow-on question – is there going to be something done with that in the next few years?

MR. PATRICK A. CAMPFIELD: With seatrout specifically, in the last two or three years we did not attempt a coast-wide assessment, but the individual states in the South Atlantic did meet and look at the available data and moved forward on, again, individual state-specific assessments or analysis of trends; but again decided that there was no need to do a regional or coast-wide assessment for seatrout.

MR. AUGUSTINE: And then a final question on we had talked about trying to get the sturgeon delisted. As you had said, Dr. Daniel, it had an effect on you for what permits you had to get in the last couple of years and how many millions of dollars it was costing you to do those. Has ASMFC moved forward any further than looking at trying to get sturgeon delisted? We have a plan to do something after the stock assessment is completed; directly after that?

CHAIRMAN DANIEL: I certainly hope so. Unfortunately, it has taken us quite a bit longer to do the stock assessment than I expected. But depending upon the results of the assessment, will that give us the juice that we need to try to petition to have them delisted? I think that is everyone's intent. I believe it still is; but it is going to set an interesting precedent when we start battling ESA issues based on stock assessment results.

That makes me nervous; and it should make especially folks interested in winter flounder and some of these things that are at a very low biomass levels nervous as well. One point that I hate to even bring up on the record, but I will, I do have some pretty significant concerns about having spotted seatrout on the list. While I

recognize that it is important – it is a hugely important fish to the South Atlantic, up to Virginia at least.

The problem is, though – and I don't know if other states are finding this to be the case; but we're starting to have folks look at instances where we're more restrictive than federal rules. While we're not a federal agency, we're seen as a federal agency by a lot of people. The fact that all we require in our FMP for speckled trout to be in compliance is a 12-inch minimum size limit could really cause some problems particularly for the Virginia/North Carolina stock.

If it was said that by implementing the rules and regulations that we have in place, which are very complex for speckled trout, we're being far more restrictive than the plan requires; and so do we really need it in the hopper at all; and that is a question I think for the South Atlantic Board to discuss first and foremost; but it is starting to create some issues, that specific plan. I'm not aware of any other plan that has that type of problem associated with it.

MR. EMERSON C. HASBROUCK, JR.: Mr. Chairman, the issue with people submitting alternative models between stock assessment workshops, if there is more than one workshop, how problematic is that? What triggered this?

MS. MADSEN: We've only had it come up a couple of times. Essentially the problem is if we have multiple assessments workshops, usually at the first assessment workshop they go through and they look at all of the models that they have on the table. If we have something that is an alternate model, we can discuss it then.

If they're going to have subsequent assessment workshops, by that point they usually already come to consensus on a model; and so we're already moving forward with a model and working through it. If we have someone coming in after we've already come to consensus, that could pose a problem.

MR. HASBROUCK: I understand the process and I've participated in it a few times. You just outlined the process and I understand that. I guess my question is how frequently does it happen where there is more than one stock assessment workshop and in the period between the first and the subsequent workshop somebody comes along and submits an alternative model?

MS. MADSEN: We've only had it happen once so far.

MS. KERNS: But we want to make it very clear to the public how to participate in our process and how to be a part of it; and so we want to make sure that there are very clear and specific guidelines on how to do so. That's why we're proposing the change so that it is very understandable where we're supposed to be bring these things forward. If, as Shanna said, it comes in the middle – you know, lobster had three or four modeling workshops. If someone came at the very last model workshop because our guidelines aren't very clear that they wanted to bring this whole new model for the committee to consider, they're finalizing their report in three weeks.

That is not very transparent to the public that, oh, they should have come four months ago; and so we want to make sure that we're being very transparent to the public of how to participate in our process. It is not that we're trying to prevent them from participating; it is so that we want them to come in at the right times.

MR. ADLER: Mr. Chairman, I just want to ask one clarification of the report. You said the lobster was going to have the second week in June a review; is that the peer review of the – is that what that is?

MS. MADSEN: Yes.

MR. ADLER: Because then it is coming back to the board here I guess in August, I think; so what you talked about was the peer review?

MS. MADSEN: Yes, that will be the peer review.

CHAIRMAN DANIEL: Any other questions? I think we need a motion to – I'm sorry, I didn't see you there, Dave.

MR. DAVID SIMPSON: That's all right, I was late and debating whether or not to bring it up now. Independent of the agency, the University of Connecticut applied for and received Sea Grant funding to do a stock assessment for tautog in Long Island Sound. They have been talking with the technical committee all along; so they're well aware that – I think they'll be here later today and tomorrow to get to know the commission process and the people a little better.

They already have a post doc on board to do the assessment. I'm wondering in terms of the update schedule for 2016 how the Tautog Board could consider the products of this next assessment, when we might be able to entertain a look at it and how it might fit into the schedule. I mean, is this something we do need to talk about now or could we talk about if next year for planning purposes?

MS. MADSEN: I think that's something that would be brought up on the ASC call. If you guys are already in contact with the technical committee, your technical committee member would be able to bring that up on the ASC call and let us know where they would like to have that placed on the schedule.

MR. SIMPSON: Okay, so a technical committee member – okay the ASC is a subset or a complementary group. We might not have membership on the ASC; I don't think we do. For example, Jay McNamee is intimately familiar with the work that they're doing. They seem to be in communication a lot. I'm not sure what his relationship is with UConn, but there is one there. He is certainly aware of what they're doing.

MS. MADSEN: Yes; the ASC member who I guess would be closest tied to tautog would be Jeff Brust; so I can get in contact with him.

MR. BORDEN: Mr. Chairman, I'll be brief. Can somebody remind me what the policy is relative to releasing a stock assessment? At what point does the finalized stock assessment actually get released to the public? Is it made, for instance, available before the peer review; is that the way it works?

MS. MADSEN: A stock assessment will be released to the public after the board gets a chance to review it and it is approved by the board.

MR. BORDEN: I guess that at least raises a question in my own mind; the peer reviews, as I understand it, are available to the public. I mean they can attend and listen; and at that stage the board hasn't reviewed the document. I'm just wondering it is almost like a little disconnect in terms of – I would think that somehow we'd make the stock assessment available at the point where we schedule a peer review so that people go into the peer review informed; that they've had an opportunity to actually read the document. Maybe I don't understand what we're doing.

MR. CAMPFIELD: There are a couple of steps there. We have a transparent process; and so just like the stock assessment workshops, the peer review workshop is also open to the public. Anyone that wishes to attend will receive the results or observe the presentations through the peer review workshop.

I will note that in our technical guidelines and benchmark process the board chair for the stock is welcome to come and made aware of the review workshop. They can participate at that time; but because it is a public open process, anyone could be aware of those results. I will clarify that throughout the

development of a stock assessment, including at the peer review, at the opening of those workshops we state to everyone this is still considered draft, changes may still be made, you're going to see the results of modeling for a given stock, but consider these not the final results until they go to the board for approval.

MR. BORDEN: A quick follow-up, Mr. Chairman. I'm making a slightly different point that I totally approve of the way it is being handled, the way it was just characterized, very transparent and open. I'm a little bit more concerned about the issue of the public going to a peer review and not having had the opportunity to at least read the draft that the peer reviewers are going to read.

It seems to me that at the point that you schedule a peer review, the document should be available electronically and then if members of the public are there and want to avail themselves of the document and read it and go make comments within the confines of the commission rules, they should be allowed to do that; but that's my own opinion. Thank you.

MR. AUGUSTINE: Mr. Chairman, are you ready for a motion? Okay, would you like to have a common motion for both, Mr. Chairman?

CHAIRMAN DANIEL: Please.

MR. AUGUSTINE: **Move to approve the Fishery-Independent Data-Use Policy and the revised stock assessment schedule as presented**.

CHAIRMAN DANIEL: How about this Pat; just move to approve the Fishery-Independent Data Policy changes –

MS. KERNS: No; instead of saying approve the Fishery-Independent Data Policy, we could say approve changes to the Technical Committee Guidance Document because the Fishery-Independent Data Policy would be an appendix to the Technical Committee Guidance Document. We also did have that one line change in the actual guidance document.

MR. AUGUSTINE: Yes, so moved. Yes, please make the change accordingly.

CHAIRMAN DANIEL: I believe staff will correct if I misspeak; that what we're approving is the one-month language change, the data policy guideline which basically says that if you want raw data from the stock assessment, they would sent you to the state who has the data and not be giving it out of ASMFC; and approve the revised schedule. That is what we're voting on. Is everybody clear?

We will read it for the record: **move to approve the changes to the Technical Committee Guidance Document and assessment schedule as presented.** Motion by Mr. Augustine; seconded by Mr. Adler. Comments on the motion? Seeing none; is there any objection to the objection? **Seeing none; the motion carries**. Shanna, you can just keep on going if you're ready.

COMMITTEE ON ECONOMICS AND SOCIAL SCIENCE REPORT

MS. MADSEN: I'm ready. I just wanted to briefly update you guys on our last CESS meeting that we had in March of this year. As you remember at winter meeting we discussed the CESS presenting some updates and changes to their role within the commission. The restructure of the CESS was generally well received by the board; and the CESS is moving forward with the plans that we had outlined in our revised guiding document that we went over back in February.

The commissioners did express interest in expanding some of the socio-economic sections in amendments and addenda with basic information and calculations. The CESS reviewed this request and they decided that they should be able to provide some of the information that the commissioners requested.

However, they did want to express caution against depending on that information for making management decisions. They stressed that allocation decisions cannot be made on the data that we will be presenting here and much of the data necessary for allocation decisions is currently not collected.

As you remember, we went over with the CESS restructure that CESS would now be nominating members to serve on each ASMFC species' technical committee or PDT. They should be able to provide some technical support to the development of those socio-economic sections of fisheries management plans.

Some of the suggestions that we propose putting into amendments or addendum that would be a little bit quicker, easier and could be graphical we broke down into both the commercial and the recreational sectors. Some of the brainstormed ideas were making sure that we include things like ex-vessel value overall by gear and by sector; also regionally and by state. We could also include crew size. We also were going to include participation in these sections as well as reliance on other fisheries or species.

All of these things we hope to be able to provide in either ten, five or three-year trends. Then at the end of these sections we would go and have a short discussion on the most recent year's data. We also brainstormed a few data sources that we could pull from while compiling this data. We can go through state data. ACCSP also provides some of this information as does the National Marine Fisheries Service.

For recreational data, we said that we could probably provide effort by mode. We would definitely do this in a ten, five and three-year trend and again the discussion with the most recent year of data. We would also be able to discuss the trends in directed trips, whether the species are caught or were targeted. We would go through changes in discards versus harvest. The data source for this would be the MRIP Program.

The conclusion was from the committee that a lot of these basic trends could be included into upcoming amendments and addenda when we have that data available. Again, a lot of times these things are patchy; and so it would take time for the committee to go through and make sure that they have a clear trend to be able to provide within the FMPs.

CESS would like to continue to inform the commissioners on more comprehensive data collection programs and comprehensive analyses that would actually fully describe a lot of the socio-economic implications of management measures. We would also want to continue our educational workshops like we had last year and provide reports to the Policy Board. With that, I would be happy to take any questions.

DR. PIERCE: In your slide that showed the commercial fisheries and the information that you believe would be available for our use, you say reliance on other fisheries and species. To me that is an extremely important part of any evaluation of what we do, the consequences of what we do. The question is you really can't provide that information?

This is extremely difficult and hard information to come by. If you can give it to us, it will go a long way towards helping us. You're confident – you and those with whom you've worked with is you're confident you can actually provide us with that kind of a perspective, reliance, the degree of reliance on these other fisheries and species?

MS. MADSEN: Again, I think that a lot of the things that we have listed are brainstorms and are things that we want to be able to provide when we have that data available. We completely agree with you that is something that would be very useful information when making management decisions. It really

depends on the depth of data that is being collected for that particular species; that we would actually be able to provide that information.

DR. PIERCE: Thank you; and this gets to my point about cooperation with our federal counterparts and the importance of staff knowing who the players are since much of this information is in the hands, in the files and in the computers of the National Marine Fisheries Service. To provide this information, we're going to need that kind of cooperation, which I'm certain we'll get. Thank you for that clarification.

MR. HASBROUCK: My question is going to be very similar to the issue that Dave Pierce just raised. A corollary to that as well is if we have or if we can obtain information on reliance on other fisheries and species, I think it would be helpful and important to include, I'm going to say, a cumulative impact.

Even though we manage these species individually, fishermen don't fish on just one species; and we may have taken an action in Year 1 that has an impact and then in Year 2 we're taking an action on another species, which is within the suite of other species, other fisheries or species; so I think it would be very helpful to commissioners as well as to the industry to have some estimate of what cumulative impact is or what it might be. Thank you.

CHAIRMAN DANIEL: That was a good suggestion. John.

MR. CLARK: Can you go back I think it was to the second slide, Shanna, I just wasn't really clear about one of the comments there. Yes, it was caution against depending on information for management decisions; what exactly do they mean there?

MS. MADSEN: I think they were worried that if we provided things that were deemed as very straightforward graphical information; that they wouldn't want that used for making allocation decisions. The information that they want to provide for making allocation decisions would be based on very significant complex work.

I think that is what we brought forward at our last meeting in February is that we hope to be able to continue to provide the commission with areas of interest that we see where we can start collecting more data, where we can hopefully start to contribute time to building RFPs and pulling in more information or to be able to give you guys more in-depth information.

A lot of the ideas that we've laid out now are more quick things that we could provide during like an addenda process or amendment process; but we want to make sure that we continue to provide the best information that we can and that we're not just giving you basic things.

MR. CLARK: Sure, okay, and I just had one comment on the recreational. Was any thought given, in light of all the complaints that were heard up and down the coast over striped bass, about how charterboats were saying having a one-fish possession limit was going to kill their business; just looking at something as simple as the number of charterboat licenses in states before and after something like Addendum IV? I was just curious just because that was a – I know from the board meetings that we heard that complaint up and down – you know, from many states about what that possession limit would do.

MS. MADSEN: I think that's a great suggestion and I'll make sure that I bring it up on our next CESS call.

MR. AUGUSTINE: Mr. Chairman, a quick follow-on question; so when would you develop a sample of sorts as to what all of this would look like for the board to review; at the annual meeting or something like that? Do you have a

next step in the plan as to how the data would be presented?

MS. MADSEN: I think it is hard to provide a sample because it would be different for every species dependent on what data is available; so I think that one of the next things that I've been discussing with the ISFMP Department is that tautog would probably be the next step in the process; so I would get one of the CESS members – you know, we're in the process right now of deciding who is assigned to which species and things like that; but we will be working together to develop a segment for tautog I think first.

MR. FOTE: I have been looking at the number of trips that we've been down since 2007 in the Mid-Atlantic Bight Area, recreational fishing trips, and that is private boats and shore-based anglers. We've been down about 8 million trips. I know in New Jersey alone it is down 2 million trips. I know we pulled out the figures because I was looking at them for summer flounder.

It would be interesting to look at a table that would basically shows species and the number of trips that are down for those directed trips in the last five years or the last four years. Eight million trips in one area in the Mid-Atlantic Region is a lot of recreational trips that are not participating and it means a lot of money lost; and we should be trying to grab a handle on why those trips are dropping like that.

The only way we do this is we look at the species, and that information can be tweaked out of the MRFSS figures, as good as the MRFSS figures are, but that is another story. But, anyway, we could take a look at the information that we have available. I know John Boreman did that – no, Dave Voorhees did that for summer flounder; and I have it broken it down by state who dropped a number of trips, but that might be information to get to the board so we realize that there has been a huge drop in the number of trips since 2007.

CHAIRMAN DANIEL: Nothing further? Thank you, Shanna.

DISCUSSION AND DIRECTION OF THE WINTER FLOUNDER LETTER TO THE NEW ENGLAND FISHERY MANAGEMENT COUNCIL AND NOAA FISHERIES

MS. KERNS: Next is winter flounder. Melissa, if you put up the motion from the last Policy Board meeting; at the last Policy Board meeting, based on a recommendation from the Winter Flounder Board, you moved to send a letter to the New England Fishery Management Council and NOAA Fisheries urging a reduction in the Southern New England/Mid-Atlantic Winter Flounder possession limit to bycatch limits only for federal vessels based on sea-sampling data for trips targeting other species.

Staff went ahead and drafted a letter that reflected this motion as well as just overall cooperation and coordination between the commission and council as well as NOAA Fisheries and Regional Office on winter flounder management in discussions and discussions.

When we shared that letter with members of the Policy Board as well as members of the Winter Flounder Board, there was concern about the specificity of the possession limits in the letter; so was asked that we bring this back to the Policy Board. At your discretion, Mr. Chairman, I'd like to pass it off to Bob Ballou, who had some thoughts on this.

MR. ROBERT BALLOU: Thank you, Mr. Chairman; and thank you, Toni, that was a very accurate characterization of the record; a rather prescriptive motion from the Winter Flounder Board that was brought before the Policy Board.

A discussion that ensued in a strong inclination on the part of the members of the Policy Board who spoke to the issue to rework the language a bit and yet there was not an amended motion

or a new motion adopted by the Policy Board; so we were left with a sort of disconnect with this original motion; a subsequent discussion that was aimed at sort of tailoring the approach a bit, but no sort of final outcome. That is what left the issue sort of in abeyance.

What I would like to suggest is a motion that I think would put the issue in the place where it belongs. I've already handed it to Melissa; so I will just read it into the record; and that is to **move that the commission send a letter to the New England Fishery Management Council requesting the initiation of a broader dialogue on the co-management of Southern New England/Mid-Atlantic winter flounder, with particular focus on achieving more consistency in the application of management measures in state and federal waters.**

I will just make that my motion; and if there a second, I can certainly go on to speak to it. I again would just note that the record from our last Policy Board meeting reflects this sentiment, and I think this is consistent with what the Policy Board was intending to do. Thank you.

CHAIRMAN DANIEL: Seconded by Mr. Gilmore. Discussion on the motion? Dave Simpson.

MR. SIMPSON: I thought the Winter Flounder Board was pretty clear in their feelings about this. I appreciate the points that Bob made. I think it was mostly Rhode Island that was equivocating a little bit on specificity and maybe the severity of the recommendation and go back to what you were doing before or closer to what we're doing; but this is not my sense

I mean it did pass, as I remember, unanimously, the previous motion that we have now unanimously at the Tautog Board and unanimously at the Policy Board. I do recognize that there was a discussion about softening it a little bit, but we've looked at our trawl survey indices. Winter flounder are in dire straits, dire straits.

There was a little bit of recovery for a couple of years when coincident with the moratorium in federal waters. Since the moratorium was lifted and directed fishing was allowed again, our indices are back down; and I don't mean a little bit. I mean in our April survey we caught 116 fish. For winter flounder that's shocking.

We used to have an old gadfly, we'll call him, in Long Island Sound who used to criticize everything we did; and at one point probably ten years ago he petitioned NOAA to have winter flounder listed under the ESA. I'm beginning to think that is how close we're getting to a problem with winter flounder. I mean there are no fish left in many areas of the Sound.

Winter flounder was a species we've been doing a survey for 32 years now; 97 and 98 percent occurrence for 31 of those years. In the last two years we're down to 69 percent occurrence; so we can't even find them in some locations anymore. The Niantic River is probably the most studied stock anywhere because Millstone Nuclear Power Station; they've been monitoring that population for decades.

We've gone from a stock of 50,000 fish in that little river down to dozens of fish. This is a resource that is being wiped out. It is facing the adversity of climate change, but it is at such a stock level that our previous couple of winters that would normally provide favorable recruitment, it can't produce strong recruitment anymore.

I don't think we can be strong enough in our urging to the federal government to please do some conservation with winter flounder; don't restart the clock and give yourself another ten years. This stock is in serious trouble. This is beyond chasing optimum yield. This is a stock that is in real trouble; and I think the commission shares that sense with me. This is not a time to talk about, you know, our fishermen need these fish. I mean, that kind of

to me 1980's mentality, but they need these fish, is what got us into trouble with a lot of stocks. This is one that is predominantly a state-waters resource. It is spawning in our estuaries.

I think there is a lot of state-level identification with this fish; and that the months they spend in federal waters, they have no protection anymore and it is showing in our assessment of them. I'm very concerned and I think we need something much stronger than this as a signal, much more like what we agreed to three months ago.

MR. TERRY STOCKWELL: Mr. Chairman, as someone who is going to be the recipient of whatever letter comes from this council, I just want to provide a little context to the way the council sets its trip limits. The common pool trip limit is tied to a fixed amount of fish; so it is probably better for us not to argue about the trip limit but to recommend that the council sets a lower mortality rate on the catch altogether. To David's point, this year's assessment may well take care of that. It doesn't look very good.

DR. PIERCE: I share David's perspective on the status of the stock. Like Terry, I'll be the one who receives this correspondence and I will be talking to myself as a board member of what should I do, as a council member what should I do, and I think as a board member I would prefer to go in the direction that the Winter Flounder Board has already states; that is, action definitely needs to be taken, something very aggressive. I appreciate the maker of the motion, Bob Ballou.

However, initiating a broader dialogue with co-management will not necessarily result in the outcome that will be of benefit to the Southern New England/Mid-Atlantic winter flounder resource; not at all. To give you an example as to what is going on with this particular stock, in the context of habitat management, the Omnibus Habitat Amendment of the New England Council at our last meeting we adopted a closure area to protect habitat that includes a rather large stretch area in the Great South Channel Area into which this stock goes; an area where the so-called channel flounder are caught.

Those flounder will be off limits, but I suspect that at the next council meeting there will be an initiative especially by the fishing industry that wants to catch this winter flounder to change that council decision, to revise that decision to open up those areas again for fishing on winter flounder. There is still is this mindset that winter flounder, Southern New England/Mid-Atlantic winter flounder should be targeted, can be targeted.

I don't think it should be, not to the extent that it has been or might be in the near future. I can't support this motion. I would prefer to support the other motion, although at the same time Terry also makes a great point about perhaps the need for us to recommend something that would relate a lower F target; and maybe the stock assessment that will eventually be brought forward will kind of put this issue to rest. In the meantime we have to act and this is a motion that I don't want to support.

MR. BORDEN: Mr. Chairman, I think everybody knows I've spoken on this issue at I think three prior committee meetings on this; and I always align my thinking completely with what David Simpson said. I think this is a really – the whole system is setting itself up for failure unless we address this right up front. I point out that in our charter – and this is only a sentence in our charter – it says, "Coordination with the regional fishery management councils; each management board shall work with the appropriate committees of the regional fishery management council's appropriate federal officials to ensure state and federal fishery management programs are coordinated, consistent and complementary."

We're not doing that, plain and simple. In order to have coordinated programs, you need a dialogue. The two parties have to set down and discuss the rules and the goals and objections in order to have complementary regulations, which we do not have. The commission is managing the stock as a depleted stock with a bycatch limit.

The council, because of the Magnuson requirements when you can't rebuild within ten years, has extended the rebuilding timeline for another ten years and then managed it with a constant catch scenario and certain recruitment assumptions. The long and short of that is that if those recruitment assumptions are wrong – and I think you're hearing some testimony from a state official here that they probably are wrong – then we're just setting ourselves up for failure.

In my own case I can support the motion. I would be happier if the motion ended with the sentence that requested that a subcommittee meeting be set up between the council officials and representatives of the commission, including the National Marine Fisheries Service, to bring this to a head and basically end up with a coordinated program. I think that's what needs to be done.

MR. BRANDEN MUFFLEY: Mr. Chairman, I think in any letter that we send, I think the more specific you can be I think the better the letter is. I think the original motion by the Winter Flounder Board is pretty specific, and I think there was an intent behind it being so specific because of our concerns.

I certainly think that letter can also indicate that the Winter Flounder Board would like to encourage greater dialogue between the two management agencies, but I think it needs to contain the specific language that the original Winter Flounder Board agreed to. I think it is a lot clearer. This is a little bit nebulous in terms of what may happen and what the outcome might be. It is pretty clear what the Winter Flounder Board is asking; and I think we should send a letter to that effect.

MR. FOTE: I think the letter also should go to the regional director since he has to approve what the New England Council does; and we're asking them not to approve what they're doing the last time. I should it should be pretty clear that we send it to the regional director.

MR. BALLOU: Thank you, Mr. Chairman, and I do appreciate the comments that have been offered. I just want to make it clear that the issue certainly for Rhode Island – and I think it might be true for others – is the disparity in possession limits that currently exists. We're well aware of the issues, the operational assessment underway, which is very likely to show continued low abundance, and we're certainly not suggesting that there should be an increase in effort by any means.

What we're suggesting is that there needs to be a more harmonization between the two management programs; the one being the ASMFC program for state waters, the other being the New England Council program for federal. That was what we were trying to get at or that is what I'm trying to get at here with this motion is to try and step up the dialogue to at least achieve a more consistent approach aimed at addressing the issues that need to be addressed, whatever they may be, such that there isn't disparity in terms of how state-water fishermen are treated versus federal. I just want to clarity that is really where we're coming from on this. It is not to disagree with the sentiments that have been expressed today. It is to rather focus on trying to step up the dialogue with a particular view to addressing the disparity in possession limits. Thank you.

MR. AUGUSTINE: Mr. Chairman, I would move to amend the motion; and I would like call, if I may, Mr. Chairman, on Mr. Borden to restate his additional sentence that he wanted to put in there. I thought it was clear. What Mr. Ballou put up there I think is extremely important to

set the stage, but I think Mr. Borden was trying to close the loop on the rest of that. I will second what he said; and I don't remember exactly how he put it, but he was very articulate in how he presented; so if we could do that, Mr. Chairman, I would appreciate it.

CHAIRMAN DANIEL: And we can agree to do that without amending it if everybody agrees with – I guess you're calling on Mr. Borden. Would you like to speak, Mr. Borden?

MR. BORDEN: The only problem with this, Mr. Chairman, is I can't remember what I said. We might need a minute to wordsmith this.

MS. KERNS: David, I think that we can express in the letter that we would like to have a coordinated meeting with the council, regional office staff, commission members and maybe technical individuals to discuss how we move forward with winter flounder management in a more coordinated way.

MR. BORDEN: Yes; I actually think the point that got Pat's attention is that we would just simply **add a sentence to it that requests a subcommittee meeting between the commission and the council with GARFO and maybe even Center personnel** to move the discussion forward; that's all.

CHAIRMAN DANIEL: Okay, we'll just do that if it is okay. Is that okay, Pat?

MR. AUGUSTINE: That's perfect; thank you.

CHAIRMAN DANIEL: Oh, oh, maybe not. Roy.

MR. ROY MILLER: Mr. Chairman, I find myself in alignment with David Simpson and Branden Muffley on this particular issue. I think just pointing out that there needs to be better consistency is not a strong enough message. This is a stock that virtually disappeared from our area many years ago.

My personal opinion is we'll never see any more winter flounder unless something is done drastically to increase or allow the species to reinhabit its former range. I think the message from the letter that we're considering sending at least highlighted the urgency with which we view this particular issue. I'd like to see us recapture that urgency in our letter. Thank you.

MR. STOCKWELL: Mr. Chairman, just timeline-wise, all the winter flounder stocks will be updated this year in September; so we really have an opportunity now to start the discussion of improved collaboration between the commission and the council. Whatever version of this letter goes out there, my suggestion would be to get a subset of the Winter Flounder Board and GARFO and the Groundfish Committee together at some point this year and put a process in motion before the council sets its specifications in the fall for the next three years.

MR. SIMPSON: I think Terry made good points about the particulars of the motion that passed unanimously three months ago. We can finesse that, but if seems clear to me that the board's sentiment is we need to start a dialogue and cooperatively manage. There needs to be added to that a sense of urgency about the status of this resource and our significant concerns about it.

This isn't just another species and another allocation issue. This is the survival of an important species in state waters. Again, we caught 116 winter flounder. This is like you catch 116 bay anchovies; you start to panic. That is a very, very low number. This is a species that is ubiquitous or supposed to be.

Thousands every month we would take normally; and I have staff concerned about our policy of aging because that requires we kill the fish. That is how concerned our staff is about it; so this isn't about better coordination of management. This is it needs to be a strong signal to the federal government that states

have concerns about the viability of this population in the future; now and in the future.

DR. PIERCE: Yes; this discussion has made me think that perhaps the motion could be simply stated as is, but with a particular focus on achieving – with a broader dialogue on the poor status of the winter flounder resource and co-management of the flounder. In other words, highlight the fact, as David Simpson just said, that we believe right now and we have plenty of evidence that the status of the stock is very poor.

All right, so we put it into the motion; we then pass this motion; and it is done in a way that precedes the winter flounder assessment that will eventually come out that will make our points that the status of the stock is very poor. With regard to the co-management, when we get into the co-management discussions, I suspect that the Winter Flounder Board may actually say that we need to do with winter flounder what we've done with spiny dogfish; and that is ASMFC should control the winter flounder fishery in the Southern New England/Mid-Atlantic Area potentially through landing limits. We can and we do it with dogfish.

If we believe the status of the stock is as we suspect it is and that the actions in federal waters by the New England Council, me and others, are insufficient, then we can implement landing limits that would constrain what is landed in our states; hence, what is coming out of federal waters as well as state waters.

Now, that might not be appreciated by some council members because it hasn't been appreciated with dogfish; but still we can do it if we care to. It is an aggressive move on our part. It would make it very clear that we're very serious about this. If this motion passes perhaps with the change that I've just suggested, then we could go down that road and have some very productive discussions with ourselves and with our federal counterparts to do something meaningful for this flounder resource that is indeed in very serious shape.

I could make that suggested change to the motion, Mr. Chairman, if you would like to add "request the initiation of a broader dialogue on the co-management of Southern New England/Mid-Atlantic winter flounder with a particular focus on the poor status of the stock and on achieving more consistency" and it goes on from there. Just to put it in there so there is a clear understanding as to why we want this focus of consistency.

CHAIRMAN DANIEL: Is that a friendly change? We'll do it. It is nice not to have a dog in this fight for once; but we're actually seeing more sturgeon than you're seeing winter flounder; a lot more sturgeon than you're seeing winter flounder. I mean we're seeing them every day. We're observing them daily in North Carolina. You could be in a real scrape, New England Council. From my perspective, you need to hold NMFS' feet to the fire.

If they even think about listing them and they're the problem, that is going to really be a mess. My only question is have we done enough at the commission level that if we needed to take emergency action, we could, and would that be something that the New England Council could consider to take some action right away. Those are just thoughts; but we're seeing more sturgeon than you're seeing winter flounder; so that should raise some red flags. Dave.

MR. BORDEN: Mr. Chairman, I'll be very brief. Is it your intention to continue this meeting tomorrow or continue on with the agenda today?

CHAIRMAN DANIEL: No; we're going to continue until we done.

MR. BORDEN: Okay, with all due respect, this might be one of those moments where if we're going to take a lunch break, if we could take a lunch break and allow somebody to craft a

motion that represents the sentiments that have been expressed around the table and then put that up so everybody can read it; that might expedite the deliberations.

CHAIRMAN DANIEL: I have no problem with that; so we can do a lunch break now and we'll come back and we'll finish up our agenda.

(Whereupon, the meeting was recessed for lunch.)

CHAIRMAN DANIEL: Would someone like to dispense of this issue. I think there was some discussion, and I think we've come to some agreement of how to move forward. Since it was your motion, Bob, maybe you can help us out.

MR. BALLOU: I would venture to say based on the discussions we've had during the lunch break that this motion may be deemed acceptable. That is my sense so I'm comfortable with the motion as proposed and as amended in particular to reflect the focus on the poor status of the stock as a key aspect of this. Thank you.

CHAIRMAN DANIEL: Is everybody good with the motion on the floor and everybody is happy? All right, I'm going to read it: **Move that the commission send a letter to the New England Fishery Management Council and NOAA Fisheries requesting the initiation of a broader dialogue on the co-management of Southern New England/Mid-Atlantic winter flounder, with particular focus on the poor status of the stock and achieving more consistency in the application of management measures in state and federal waters.** Motion made by Mr. Ballou; seconded by Mr. Gilmore. Any objection to the motion? **Great; the motion carries unanimously**. Dave Pierce.

DR. PIERCE: I have one more winter flounder issue, if I may, Mr. Chairman. It relates to something the New England Council did at its last meeting. It is very relevant to the discussions we had on winter flounder before lunch; especially a point that was made by representatives from the Mid-Atlantic – I think it was Delaware – about winter flounder coming back; the need to rebuild to winter flounder reestablish itself in areas where it no longer is abundant. The New England Council – and Terry Stockwell can help me with this if I misstate this – we voted to remove the essential fish habitat designation for Delaware Bay and for the southern shore, the coastal waters of New Jersey.

This was done at the request of a Mid-Atlantic Council representative and I think from the Chair of the Mid-Atlantic Council. This has been an important issue for the Mid-Atlantic Council. The argument was winter flounder habitat is no longer down there. It has changed dramatically. That was the argument, for siltation, what have you.

Therefore, by removing the EFH designation, it becomes easier for the states of Delaware and for New Jersey, at a minimum, to get involved in a more aggressive way with dredging, with beach enrichment. In other words, no longer would there be a need to deal with terms of reference or time-of-year restrictions on winter flounder – you know, to protect winter flounder habitat.

The New England Council did this; and at the time – and I'm still not sure if the state of Delaware and New Jersey understand what the New England Council did; and for that matter I don't know what the Winter Flounder Board would have done if it had known that this was going to be an action taken by the New England Council.

Now, a member of my staff, Steven Correia, has been involved with essential fish habitat issues for winter flounder for it seems like decades. He was really influential in helping the Winter Flounder Board, ASMFC, move the plan forward, the initial Winter Flounder Plan, having

a large element of environmental protection, habitat protection.

I recently asked him "What do you think about this action by the New England Council?" He said, "You know, I don't think it is such a great idea. It is like saying that we should destroy the prairie the buffalo are gone." I'm calling this to the attention of the Policy Board because of this letter that is going to be sent.

Now, I don't know what the proper procedure would be. This is the Policy Board and not the Winter Flounder Board. At a minimum I would think that the Winter Flounder Board should be tasked – requested to address this issue to see if indeed it agrees with what the New England Council did to remove this essential fish habitat designation from Delaware Bay; all of Delaware Bay and the southern part of New Jersey.

It is not my neck of the woods; and I don't want to step on the other states' toes, but still I would think this is still an important issue for those two states. I look to you for your guidance, Mr. Chairman, as to how this could be addressed by this Policy Board relative to this important issue.

CHAIRMAN DANIEL: I would just ask if it is a Policy Board issue, then, yes; but if not, for the sake of time we could deal with it at the working group level. Doug.

MR. GROUT: Dave, I just want to make a clarification. It was not a removal of all EFH life stages; designation for all the EFH life stages of winter flounder down there. It was a specific removal of the egg life history stage from down there. That is because they haven't seen – the data that was brought before the Habitat Committee was – and this was data outside of trawl surveys. This was egg deposition surveys that have been done by someone down in New Jersey, a researcher down there.

The impact of this is – and it would probably be good if the commission as a whole got the full details of this from our Habitat Committee PDT person, Michelle Bachman; but apparently it was having an effect on the ability of some harbors to even be dredged because of this egg EFH designation and not because of adults that were there, but because of the egg designation.

Because there hadn't been eggs found there in a number of years, we felt it appropriate to at least recommend to the council that it be moved up to the Atlantic City area up there. If we are going to take this on, I think we should get Michelle Bachman down here to give us a little clarification of exactly what was done.

MR. BORDEN: I attended that Habitat Committee meeting that Doug is referencing and I agree with everything he said. I think there is probably a pretty good written record on this that the council staff – we've got a council staff member in the audience; and I think that if he goes back and simply asks staff to provide a written record on the basis of the decision, I think that will accelerate the handling of the issue.

DR. PIERCE: Just a quick follow-up; yes, Doug is quite right, eggs; but winter flounder lay demersal eggs. They lay their eggs in the shallow bays and estuaries; so for all practicable purposes, it is winter flounder essential fish habitat. Yes, indeed, council staff will look into this, and that is fine and dandy.

I was guided by that particular analysis done by her and staff; but I just did not know and still do not know the perspectives of the states of Delaware and New Jersey on this. They may be completely in agreement with it. However, again this is winter flounder; and it is about successful reproduction.

As noted earlier this morning, before lunch, there is a desire for winter flounder rebuilding with the anticipation that they will reestablish themselves in area where they used to be extremely abundant and not so much now. You take away the habitat, destroy the habitat; are

they going to be able to come back and reproduce; potentially, but maybe not. Again, I'm just looking for some guidance as to how to proceed in a way that will be timely and responsive to what the New England Council has done.

MS. KERNS: Dave, what we can do is I'll work with Michelle to get the information that was discussed at the meeting. I'll work with John and Branden to get New Jersey's opinion; and then we can take that to that coordinated working group to see how we want to move forward with that – that includes both NOAA Fisheries, council staff and council members – and move us forward in that direction.

CHAIRMAN DANIEL: So we're done discussing this issue? Okay, we're done talking about this issue. I've got to move on; I've just got to. We're so far behind and we're taking everybody else's time. Go ahead.

UPDATE ON MID-ATLANTIC FISHERY MANAGEMENT COUNCIL UNMANAGED FORAGE FISH ACTIVITIES

MS. KERNS: This is just a brief update to the Policy Board on actions that the Mid-Atlantic Fishery Management Council has been considering for unmanaged forage species. The council initiated a regulatory action to prohibit the developing of new or expansion of existing directed fisheries on unmanaged forage species. Until scientific information is available to promote ecosystem sustainability, they would not expand or start new fisheries is what they're looking to do. The council, at their April meeting, discussed a series of possibilities to move forward with this type of action.

They are considering moving forward with taking this action as amending an FMP to include ecosystem components within the species. They're considering to add this action as a part of either the Bluefish or the Mackerel, Squid, Butterfish FMPs. They would ecosystem components within them.

The thought behind adding it to the Mackerel, Squid, Butterfish FMP is they're forage species included in there; and then looking at the Bluefish FMP, bluefish prey on forage species. The advantage that they discussed for adding to the Bluefish FMP is that it is a coast-wide fishery management plan, so they would be able to get the full range of the Atlantic coast there.

Commission staff was at that meeting; and we did have a concern with adding this component into the Bluefish FMP because it is a coast-wide measure and that the commission does have a Bluefish FMP as well; that not all states are on the Mid-Atlantic Council, so they wouldn't be a part of the voting process there if they did amend the Bluefish FMP.

We had said to the council in order to get information about what is going on with the states, particularly states that are not on the Mid-Atlantic Council, that we would request from the states what forage species you are currently managing as well as what types of provisions do you have in your state regulations to prevent emerging forage fisheries.

We're going to do that through the MSC; so if you get these requests from your staff, this is where they're coming from. Then we're going to present those back to the council at their June meeting as they continue forward with deliberations. If you have any particular concerns or questions about this, you can contact myself or Pat or Bob and we can work with you to address those.

ATLANTIC COASTAL FISH HABITAT PARTNERSHIP STEERING COMMITTEE REPORT

CHAIRMAN DANIEL: Is that satisfactory to everyone? It looks like it. Lisa is up on ACFHP**.**

DR. LISA HAVEL: Mr. Chairman, I'd like to give a very brief update on the Atlantic Coastal Fish Habitat Partnership Steering Committee Meeting that was held April 20th through 22nd. We have a couple of science and data updates

that we discussed at the meeting. The first one was a decision-support tool to assess aquatic habitats and threats in the North Atlantic watersheds and estuaries.

We are currently wrapping up the winter flounder model for Narragansett Bay and Long Island Sound. We're working on the final report for that; and we're moving on to river herring today, actually. We have a call at 2:00 p.m. We also had a discussion about our NFWF-funded river herring habitat restoration strategies project; and that final report was submitted to NFWF back on Friday.

We discussed the potential for ACFHP to submit a proposal to the Mid-Atlantic Fishery Management Council on working on offshore reef restoration and monitoring. We're going to move forward with that proposal and submit it once the RFP is officially put out there. We also had a discussion on ocean acidification. We would like to incorporate more work on ocean acidification in our next conservation strategic plan in 2017 and also incorporate it more into our science and data needs in the future.

We plan on having an in-person meeting with our Science and Data Workgroup this summer as well. We had an in-depth discussion about our implementation plan; and we evaluated the status of every action item in the plan and identified new tasks to address because we have completed over 50 percent of the tasks that we had set out to accomplish.

We received an update from Ryan Roberts, who is the communications coordinator for the National Fish Habitat Partnership. He talked about the 501(c)(3) status of the National Fish Habitat Partnership; and we currently have received that status and we're working on the tax status of that. We also got an update on the rebranding and marketing of the National Fish Habitat Partnership.

Back in March I presented to the National Fish Habitat Partnership Board in Arlington, Virginia; so I talked about that as well. Then Steve Perry, who is the coordinator for the Eastern Brook Trout Joint Venture, gave an update to the steering committee on the white water to blue water initiative that the Eastern Brook Trout Joint Venture, ACFHP and the Southeast Aquatic Resources Partnership is working on together.

The North Carolina Coastal Federation was welcomed into the partnership after applying earlier in the spring and making a presentation to the committee at the meeting back in April. We are excited; this is our 33rd partner to sign the MOU for ACFHP. Julie Devers from the U.S. Fish and Wildlife Service gave an update on the different projects that ACFHP recommended for funding to the U.S. Fish and Wildlife Service. They're listed here in order of priority.

The first one was ACFHP operations followed by a fish-passage project in Patten Stream, Maine; and then a dam-removal project in Bridgewater, Massachusetts; a dam-removal project in New Haven, Connecticut; shoreline stabilization in Charleston, South Carolina; river enhancement in Cape Fear, North Carolina; and a dam-removal project in Dover, New Hampshire. There were a lot of proposals this year for dam removals; so 2015 is the year of the dam for us.

In other business we discussed the potential to change and update our proposal criteria for evaluating proposals that are submitted to ACFHP. We formed a subcommittee in order to work on this further. Pat Campfield gave an update on the business plan that ACFHP is working on in order to solicit donations once the fund is in place so that we can build and work on different ways in order for ACFHP to receive money in order to work on grants.

We had guest presentations from local scientists working on different issues in the South Florida Region. We learned about lionfish invasion, marine debris and also coral reef restoration and nurseries in South Florida.

We had a site visit to one of the projects that we endorsed, Grassy Flats in Lake Worth Lagoon, as well. With that, I'll take any questions.

CHAIRMAN DANIEL: Questions for Lisa? Seeing none; thank you very much.

HABITAT COMMITTEE REPORT

CHAIRMAN DANIEL: Back to Toni, Habitat Committee Report.

MS. KERNS: The Habitat Committee met right after the ACFHP did. The committee has decided on a new topic for the Habitat Hotline for the upcoming year, which will be on energy development. Jake Kritzer is taking over as the new chairman of the Habitat Committee. Kent Smith's time has finished for his two years as the committee chair. I would like to thank Kent, even though he is not here, for his leadership and guidance.

He has done a fabulous job taking the Habitat Committee's new guidance and work plan and moving them forward to address commission species' needs concerning habitat. January Murray was elected as the new vice-chair from Georgia. I also would like to thank Melissa for all of her work that she has done as the Habitat Committee staff person as she moves on to her new and greener pastures in California or sunnier pastures, I should say.

Lisa Havel, who was just giving our ACFHP Report has agreed to test out the waters for being the Habitat Staff Coordinator for both ACFHP and Habitat. She is going to see how well she can balance the workloads between those two committees; and if it works out for the next six months or so and then will report back after annual meeting to see if she wants to continue to move forward with that or just go back to just doing the ACFHP coordination.

Within a month the Habitat Fact Sheets will be updated on the website, and this is a reminder the Habitat Fact Sheets include information on movement and migration, spawning, habitat use, threats to habitat, habitat areas of particular concern, and recommendations to improve habitat quality.

We hope that these are useful for folks as they work with your other state agencies on different issues concerning fisheries' habitat and help leverage those partnerships and management measures as moving forward. Especially when the FMPs don't have as much information in them, these fact sheets can be very useful for those.

Lastly, the focus for the next species to address some of the habitat needs will be tautog as the Tautog Board is likely to move forward with an amendment to address the concerns of the newly released stock assessment that the board saw back in February. That's the majority of the action items that came out of the Habitat Committee. Any questions?

MR. FOTE: It is more of a concern than a question. I'm wondering if it is happening in other states besides New Jersey. Because of the hurricane like Sandy, we started beach replenishment. The Army Corps of Engineers, in its usual wisdom, has decided that the best place to get the sand is from some of the fishing lumps.

Now, these lumps have been designated by the National Marine Fisheries Service as areas you can't sand mine. They're under the Coastal Zone Management Act. They amended their EIS to basically say, okay, we'll only take 70 percent of the lump and then we'll profile it after we're done. I'm saying if you take 70 percent, how can you profile it?

They're doing it for two or three lumps in one area. Thank God, there have been some lawsuits so they can't do beach replenishment; and there will probably be a lawsuit over this. I was wondering if that is happening in other areas, because it seems that the Army Corps is

looking for the fastest and easiest place to mine the sand.

We were able to fight off the glass companies 35 years ago when they wanted to basically flatten all the lumps in New Jersey. They would do us a favor and make it essential fish habitat, as they thought it. They wanted to use it to make glass. But now when you're dealing with the Army Corps of Engineers, it is a lot more difficult. They have a lot more power than the glass companies do and they're very hard to defeat on this issue, especially when the states are looking at, well, maybe it is what we to do beach replenishment for. I'm just asking if any other states are having the same type of problem.

MR. ADLER: We had the situation up in Boston where actually the state wanted to take cobble to repair a beach. It was lobster larvae and it was also in the cod conservation zone. It was off of Winthrop, Massachusetts. The association threatened to sue the state. It resulted in meetings where the state said, you know, well, we'll never do it again.

We'll always come to you or come to everybody before we ever do anything if you would drop your legal action. We did; however, we knew coming up behind us was the National Marine Fisheries Service with their habitat protection this at that time. We had suggested that the city or state get their source from land-based.

They said, no, it is too expensive, we're going to just go out there and pull up the bottom. Come to find out, the National Marine Fisheries Service stepped in and said you can't do it because it is cod area; and they never got the permit to do it. They did have to go to the Army Corps, but somehow it seemed like the National Marine Fisheries Service had a big hand in that decision; and it never was taken because they ran into all these other pitfalls. If they had taken our advice in the first place, it would have been done in six months if they just took the stuff from the land source. As it is, this is several years now and they've got the permission to take the cobble away.

CHAIRMAN DANIEL: Anyone else? If not, any other questions for Toni on the Habitat Committee?

All right, if not, we will go to Mark Robson for the Law Enforcement Committee Report.

LAW ENFORCEMENT COMMITTEE REPORT

MR. MARK ROBSON: The Law Enforcement Committee met yesterday and this morning. We had a very good meeting again, as usual. One of the key topics that we touched on was to review the current Jonah Crab Management Plan and some of the key features of that plan that might warrant some law enforcement input to you.

We had a good review of that and decided in our initial review to establish a subcommittee that will work with Toni and with their states to take a look at that fishery. We would be in a position to provide you or the Lobster Board with some law enforcement guidance in a written form at a later date; I presume possibly August.

We're on track to do that and to respond to some of those key issues such as the minimum size recommendations or how to address permitting and the question of tolerances and how law enforcement might view that issue of tolerances and landings. We have a lot of new members. We also have people retiring. As you know, our Chairman Lloyd Ingerson is retiring.

Part of our discussions during our meeting this time around were to reinforce the addition of alternate representatives of the LEC to the various species' management boards in part so that we can sure we have people who are available to you to provide law enforcement advice and also to give an opportunity for some of our newer members to kind of get more

acquainted with some of the species' management issues that you are dealing with. I look forward to doing that and hopefully you'll be able to get to know some of these new folks on the LEC. We had a couple of good discussions and some information-sharing that turned out to be pretty valuable with regard to some of the safe harbor provisions that a few of the states are addressing particularly for the summer flounder fisheries along their coast.

We just had some pretty frank and open exchange about how the states are handling those safe harbor requests, whether we have written policies or regulations in place. I think that was a very good exchange for the LECA to have. We also had a good discussion this morning about closed areas and in particular whether specific kinds of closed area boundaries or boundary designations, whether you use depth contours or latitude/longitude, whether they should be regular shaped or if there are enforcement problems with irregular-shaped boundaries.

These are things that came out when we were working on the revisions to our enforceability guidelines. There was kind of a wide range of enforcement opinions about how best to design closed area boundaries or protected area boundaries so that you can make enforcement as feasible as possible.

Because of the retirement of our Chairman Lloyd Ingerson, we did have an election for our new chairman who will be Mike Eastman from New Hampshire. We voted for a new vice chair, Steve Anthony from North Carolina, so they will be helping out in future LEC meetings. The last point I will make – and I will be working with Toni on this – back in 2014 one of our action plan tasks that the LEC was to address was to revise the enforceability guidelines that were first drafted back in 2009. We refer to them on occasion in meetings. I think you may be familiar with them.

We've completed that review and revision of that document; and I'm submitting it to Toni and to the staff. Just as a heads-up, I think you may be seeing that or we may be bringing that to you at a future date for your consideration and hopefully approval. With that, Mr. Chairman, I'll conclude my report.

MR. AUGUSTINE: Did the subject of tracking blackfish, tautog, come up? I know a couple of years ago we talked about a possible tagging program and that fell – I think you agreed with – your group agreed with that at the point in time, but it kind of fell on deaf ears for some reason or another. Would you address that or could you address that in your May 13th and 14th meeting and possibly come up with some recommendations as to how we can get a better handle on the illegal dealing of the live fish market?

MR. ROBSON: Yes, Mr. Augustine, I know it did come up before; and I think we did have some discussions. I don't know where those ended up, but we can go back and reexamine what we presented. It would probably be a good thing for the LEC to review that issue and make any adjustments and recommendations to you, if that's what the commission would desire.

MR. AUGUSTINE: Follow-on, Mr. Chairman; from what I understand, there is more illegal harvest going on now than ever. There doesn't seem to be a slowdown. I know in our state I've heard similar reports, but it is only anecdotal. I think it is a real major concern; so I think we need to put some priority on that. We only discussed it I think it was in Philadelphia a short period of time and toward the end of the meeting. We ran out of time, but it appeared there was some interest in looking at a tagging program for commercially harvested fish. We look forward to seeing a follow-up on that. Thanks.

MS. KERNS: Pat, maybe at the Tautog Board this issue could be brought up under other business and the Tautog Board could give more

specificity to what it is that they would like to see from the Law Enforcement Committee; and then they can report back at the August meeting.

CHAIRMAN DANIEL: Good suggestion. Branden.

MR. MUFFLEY: Mark, I just had a question in regards to the safe harbor discussion that the committee had. Safe harbor has been an issue for a few states and the implications of that. I was just wondering was the Law Enforcement Committee thinking about discussing maybe a coastwide sort of standard policy to apply or go back in each state and kind of discuss what they might want to do. I'm just curious as to where the Law Enforcement Committee may take that discussion.

MR. ROBSON: We didn't conclude to do anything. As a follow-up there was a request for information, and I believe Rhode Island has a specific policy on how they address requests for safe harbor; so sort of a checklist of criteria. Some of the other states were looking for information or guidance as to how they could address these kinds of requests.

Most of the other states do not have any kind of specific policy on how to approve a safe harbor request from a vessel coming from up the coast who needs to come into port. There may not be a specific set of criteria for allowing or disallowing that. I believe maybe Virginia, instead of a policy, they have actual regulations in place for addressing a safe harbor request.

There was more of just an information sharing. In fact, there wasn't really total agreement on whether a policy is good or bad or if there should be a policy or if you should use more open discretion or if it should just be done by regulation. There was certainly agreement that you have to have some kind of provision to allow vessels to seek safe harbor when they need to; but you also have to be very careful that it doesn't get abused. There was some discussion about how that potentially can be abused if you have the repeated request for safe harbor particularly with people who are fishing up the coast for a particular species.

CHAIRMAN DANIEL: Any other questions for Law Enforcement? This is an update. We were about that close to entering into the JEA; but we didn't quite get there. There is now another bill in the North Carolina, I believe it is in the Senate that would prohibit North Carolina from entering into the JEA again. I'm sure Steve probably updated the Law Enforcement Committee on that, but we remain the sole holdout on the Joint Enforcement Agreement. Thank you, Mark. George.

PRESENTATION ON THE NORTHEAST REGIONAL OCEAN COUNCIL ON COMMERCIAL FISHERIES

MR. GEORGE LAPOINTE: Thank you, Mr. Chairman, I appreciate time on your agenda today. I'm here to report on the Northeast Ocean Planning Process or the New England Planning Process, if you have confusion about those two. It is nice to see people here. I'm going to report briefly on the regional planning body efforts in the northeast, because John Weber is not here with me, and then talk about the fish mapping that I've been doing on contract with the Northeast Regional Ocean Council.

This is just a bit of background. The Northeast Regional Planning Body was set up under the National Ocean Policy in late 2012. They're on track to do an ocean plan for the northeast in 2016. I know that marine salty; but this is a slide I stole. The focus of the northeast plan is from Long Island Sound through the Gulf of Maine. They want the plan to be scientifically based.

They want a lot of public involvement. They want it to be principled and practical and to implement under existing authorities. The Northeast Planning Body is ten federal agencies,

the states and ten federally recognized tribes as well; ex-officio membership by Canada and New York and the New England Council. Doug Grout sits on it for the New England Council.

You can see it is a diverse group. The timeline for the regional planning body is that through June 2015 they're going to do outreach to various interests, shipping, fishing, recreation, et cetera. They're trying to develop a marine life data base with expert workgroups, which I'll talk a little bit about later.

They held an Ecosystem-Based Management Workshop on the 8th of April in New Hampshire, trying to figure out how to come to grips with ecosystem-based management like the rest of us have. On the 12th of May, next week, they have a Stakeholder Forum in Salem, Massachusetts, to talk about the work done to date and the process moving forward.

The regional planning body will meet in early June in Mystic, Connecticut. After that meeting they will go largely into work mode trying to complete the plan for June of 2016. The fishing part; I've been contracted with NROC to work on fishing mapping. We have used vessel monitoring system data.

That is a map shown here, the scallop fishery, based on VMS pings, trying to look at spatial patterns and patterns over time of the fishing industry for those fisheries that have VMS requirements. We've included in the second part of the project separating fishing from transit areas based on vessel speed; not perfect but not bad.

We are working a pilot project to try to work with charter captains to identify recreational fishing and transit areas. I'll show you a little bit about that later. Then looking at methods of trying to fill gaps for other species, particularly lobster, and I'll talk about that in a bit as well. The VMA maps; our early project had VMS maps for groundfish, monkfish, scallops; the species listed on top from 2006 through 2010.

We have gotten data as well from 2011 through 2013 and 2014 so it allows us to look at changes over time. The map on the right of your screen is herring fishing from 2011 through 2013 below four knots; because people in the industry told us above four knots was for transiting. This color scale is standard deviations around the mean for mean numbers of VMS pings.

Blue and green are lower levels of numbers of pings and yellow, orange and red are higher numbers showing high levels of activity, which are correlated with higher levels of fishing. We have recently gotten the data for squid, mackerel and butterfish, which started a VMS requirement in September of last year. I talked briefly about the fishing trend differentiations by speed. We've done that for all the species above as well.

On the party/charter pilot project, some work was done last year with folks in Rhode Island. Rick Bellavance is the most visible spokesperson. These are tracks of his charter vessel, used with his permission. We are trying to get people to participate. The software – and we're working with ACCSP on this – allows electronic reporting and also allows reporting of location; clearly a sensitive issue for some charter captains. In the case of a guy like Rick, he doesn't care if people know exactly where he fishes.

For other people we've talked about the ability to generalize or make the areas fuzzy; because from an ocean-planning perspective, if we're within a quarter mile, it is like playing horseshoes; you still get points, but we don't need to know exact locations. We are actively seeking charter captains to help us this year with this.

For lobster, this was something people really wanted done; and we're really no closer than we were before. There is no consistent mapping of lobster effort region-wide. The best map I have found to date is the one that is on

your screen, and that is the end-line survey that NMFS did of pots and traps along the coast.

So, clearly, as you get farther south, there are more types of traps than just lobster fishing; but for consistent application across the region, this is the best map I have found. We originally thought we could mash together different state and sub-regional mapping efforts, but we found limited utility in that just because of trying to do apples-to-oranges comparisons. For marine life characterization, the team has worked with Duke and NOAA trying to characterize different types of marine life.

You can see here the breakdown for marine mammals, birds, et cetera; and looking at spatial models that integrate observations over time; and importantly looking at distribution and abundance over multiple temporal scales; looking at persistence; looking at probability of occurrence and uncertainty; no small task, for sure, but they're working on that. That is my presentation. I would be happy to talk to state folks about the fish-mapping work that we've been doing in more detail. We've got like 30 maps and so this isn't the time or the place for that. I would also welcome the chance to talk to states about the party/charter mapping as well.

CHAIRMAN DANIEL: Questions for George? Mr. Adler.

MR. ADLER: George, have you been in touch with the ocean partnership – it used to be called Massachusetts Ocean Partnership in Massachusetts – where they did a survey on recreational activities. Have you contacted them at all?

MR. LAPOINTE: I haven't, Bill, but NROC has. One of the slides I skipped over talks about all the things NROC is looking at. They've looked at these various categories and recreation is one of the things that they did look at. They did it through I believe surveying different recreational users along the coast.

MR. ADLER: I just wanted to say they did do a survey which could go into your overall thing. They hadn't done lobster, but they were going to. They're very much involved with the Massachusetts Ocean Plan and beyond that. I didn't know if you knew of their whereabouts or whatever.

MR. LAPOINTE: I don't so much just because I've been working on the commercial fishing characterization, but I know NROC has been. Their characterization of recreational use isn't just recreational fishing. It is all kinds of recreational boating so it is a broader class of activities. You can see from this slide emphasis on a lot of both human activities and marine life. My observation is that the Ocean Planning Group talk to one another a lot, so I suspect they are aware of what they are doing.

MR. CLARK: George, is there a lot of suspicion about the goals of the RPB up in New England? I noticed in the reauthorization of Magnuson-Stevens, there is still that language in there to prevent NMFS from sharing fishing data with any of the National Ocean Policy like these RPBs. I know in the Mid-Atlantic there is a lot of – even though the goals seem pretty general and all; that a lot of people are very suspicious about the whole process.

MR. LAPOINTE: I'm shocked, John, because there is no suspicion in New England whatsoever. Okay, there is a lot of suspicion for a couple of reasons. One is I was the New England Council meeting and one fishing industry representative said, well, because this effort is funded by Packard and Pew, which it is not in New England, it clearly part of the conspiracy to get rid of fishing and putting in oil and gas exploration on Georges Bank.

There is a lot of suspicion about pushing traditional uses aside. Part of that suspicion or I guess one of the things that fuels part of the concern and the suspicion is that they are developing what they want to do in the long term, so they don't really have a strong plan

yet. People says, well, are you included this activity; and some of the answers so far are no or we don't know, rather; and so because of that lack of clarity, I think that raises suspicion. Doug, is that a fair characterization?

MR. GROUT: Yes, it is a fair characterization. One of the things in my participation in this is that the fishing industries aren't as involved with this as the environmental groups. The environmental groups are heavily involved at every meeting. In fact, one of the meetings; that ecosystem-based fisheries management or ecosystem-based management was changed to accommodate the environmental group schedule.

MR. CLARK: I just wanted to ask if whether you're also getting a lot of suspicion that this is to set up marine protected areas up there, because that is one we hear a lot also?

MR. LAPOINTE: I think the short answer is yes; but because the New England Council spends so much time on their habitat amendment, I think that suspicions about marine protected areas have been diverted to them and not to us, but it will likely come back. Because there are many interests, like Doug said, about what happens in the future and because MPAs or no-use areas are part of that, it does fuel that concern.

MR. MILLER: George, I've kind of lost touch over the past several years with what has been going on in the Mid-Atlantic area in this regard. Do those folks have anyone such as yourself that has stayed in the federal level fisheries experience guiding them as well?

MR. LAPOINTE: There is a group called MARCO, Mid-Atlantic Regional Council on the Ocean, and they are interested in similar things. I don't know a lot more about that, Roy. I'll have to follow up with you exactly on who the contact person is; but there is a similar effort in the Mid-Atlantic.

MR. FOTE: Actually I was on a panel discussion with the group about I guess three weeks ago at Monmouth University. A person with VEP is involved with it. There is also somebody on the Mid-Atlantic; I can't remember whose name it is, but they're there representing the fisheries end of it. I and Bruce Freeman have attended most of their meetings throughout their things. It is interesting. They had the cable people there that put all the cables in the ocean. They had the wind people there.

They were showing this Frontiers II. I don't know if you've seen that yet, George. That is where the oil work in Massachusetts and Rhode Island cumbia together to plan where you're putting everything. It was an interesting thing. Of course, they have no authority to do anything. They're just planning. It is interesting because in New Jersey the environmental groups, especially one of the big ones, is not giving much support. They're actually fighting them all the time because they're afraid they're going to take control away from the states. It is an interesting dichotomy in New Jersey.

OTHER BUSINESS

CHAIRMAN DANIEL: Any further questions for George? If not, thank you, George. This moves us down to other business. A few folks grabbed me at lunch and said they had additional other business issues. If we can go ahead and get those mentioned one more time for me; I know John Bull has an issue on black sea bass. There was one other; I think it was Emerson. What was your –

MR. HASBROUCK: RSA.

CHAIRMAN DANIEL: Research set-aside. Dan, are you going to come to the table?

MR. DAN McKIERNAN: At the Lobster Board Meeting, we worked on a couple of issues I think that need to have further action. One of them had to do with the recent cumulative findings that the lobster ghost panels may not

be as successful as we were assuming at releasing and allowing lobsters and other bycatch to escape a lobster trap that might have been lost on the ocean floor.

The suggestion was to have this group task the Commission's Gear Technology Working Group to work with the trap manufacturers and the lobstermen to assess the effectiveness and maybe make some recommendations. The second issue has to do with developments that are occurring right now at the New England Council concerning the Habitat Amendment and new scallop rules.

This is a follow-up to correspondence that the Lobster Board made at a previous meeting concerning possible bycatch of egg-bearing and otherwise reproductive female lobsters in Closed Area 2 seasonally. We'd like to send a follow-up letter to the council and NMFS reiterating our concerns. There are two motions on the board. Would you like me to read them both?

CHAIRMAN DANIEL: Yes; why don't you read them one at a time because they're from the Lobster Board so we don't need a second. If you'll just read those into the record, I'll take the vote.

MR. McKIERNAN**:** **First on behalf of the American Lobster Board, recommend the commission task the Gear Technology Working Group to work with industry to assess lobster ghost panel effectiveness.**

CHAIRMAN DANIEL: Dave Borden.

MR. BORDEN: Just a quick question; working with the industry, could Toni tell me what the process is for doing that, please?

MS. KERNS: I assume that we'll work with the vice-chair and chair, yourself and Dan, to identify members of the industry that we think would be good to include this meeting; not only fishermen but as well as gear manufacturers, such as trap manufacturers to talk about different ways that we utilize ghost panels. I know that fishermen also have different ways of adhering tops, et cetera, to traps. We would also look at other studies besides the ones that came out of the Fishing for Energy Workshop.

MR. BORDEN: Just a quick follow-up, Mr. Chairman. I totally agree with what Toni proposed. I think it is a good idea. This is a big issue for the lobster industry because of the volume of traps that are involved. I mean, literally there millions of traps involved in the fishery; so we have to have plenty of industry input and think through this carefully. Thank you.

CHAIRMAN DANIEL: Yes; those of us involved in the black sea bass fish pot fishery in the South Atlantic are very aware of how many pots there are in New England. Any further questions or comments on the motion? Yes, Dave.

MR. BORDEN: Yes; your response actually triggered a thought that I had made the statement to Dan at the meeting that I think this working group actually should think in a broader context. In other words, if we're going to have ghost panels be effective, it not only applies to the lobster fishery; it should apply to fish pots. I mean, we've got the same issues with fish pots; and so I think that should be factored into at least the discussions.

CHAIRMAN DANIEL: Anything else on the motion? Is there any objection to the motion? **Seeing none; the motion carries**. Dan.

MR. McKIERNAN: **The second motion is on behalf of the Lobster Board, recommend the commission send a letter to the New England Fishery Council reiterating our concerns for lobster and request a prohibition on all bottom-tending mobile gear in Closed Area 2 from June 15th to October 31st north of 41 degrees 30 minutes.**

CHAIRMAN DANIEL: Any comments on this motion or questions? Dr. Pierce.

DR. PIERCE: Just a little background; the groundfish fishery, the sector fishermen in New England have actually got an agreement with the lobstermen to protect the egg-bearing lobsters by living with this particular approach; that is staying out of Closed Area 2 from June 15 to October 31st north of that line of latitude.

Unfortunately, the sea scallop fishery has not yet agreed to abide by this approach despite the best efforts of David Borden and others to try to get the scallopers to reach that agreement. As a consequence, at the last New England Council Meeting I made a motion relative to this prohibition as part of the Omnibus Habitat Amendment and what we're doing with Closed Area 2 on Georges Bank. The motion was tabled.

Actually it was postponed until our June meeting in hopes that the scallopers will actually be able to reach some agreement with representatives of the lobster fishery. As of this moment, at this time it doesn't appear that we're going to have that agreement; so this will be revisited – this issue will be revisited at the New England Council. It would be useful for ASMFC to once again reaffirm its concern about mobile gear fishing on these lobsters at that time and in that area. This is a very good motion in my opinion on behalf of the Lobster Board.

MR. GROUT: Dave said most of what I was just going to say that this is an issue that I think is very important given the amount of egg-bearing female lobsters that are out there. I support this motion.

CHAIRMAN DANIEL: Any other comments on the motion? Mr. Adler.

MR. ADLER: Yes; very briefly. Remember when this idea came up of opening this area, which had been closed, and the agreement indicated that as long as the bottom-tending gear, mostly groundfish, could come here and the lobstermen would remove their gear from the area, after this area opened up after October, and it was interesting that when the agreement was reached, the federal government or whether it is NMFS – yes, NMFS – sort of put it to the groundfish fishermen, who they manage, that you will keep to this agreement.

However, they said we can't tell the lobster guys what to do; and so it came to this body of the Lobster Board. We actually did an addendum – I think it was XX – that basically put the agreement to the lobster fleet out there that you've got to abide by the agreement; so we're sort of involved in this.

We have gone through the efforts to get the bottom-tending mobile gear, except scallops, to – and the lobstermen out there to work together with an agreement that they worked out. We're involved in this and that is why I support this motion because the glitch is if they open the area to the mobile gear, and if they do open it, there is no constraints on the scallop fleet from dragging into this area and getting into gear conflicts, destroying the resource there, unless they abide by the same agreement that the groundfish people have agreed to. That's all.

CHAIRMAN DANIEL: Okay, is there any objection to this motion? There is objection.

MS. STEPHANIE HUNT: NOAA Fisheries would just like to abstain.

CHAIRMAN DANIEL: Abstain, okay. **With no objection and one abstention, the motion carries**. All right, I think I've got Jim Gilmore and Ritchie. I think Ritchie is gone.

MS. KERNS: Conservation equivalency.

CHAIRMAN DANIEL: Conservation equivalency; I don't know what they wanted to talk about.

MR. GROUT: It is essentially what we talked at the executive committee under other business is that we should take a fresh look at our conservation equivalency policy. Ritchie didn't realize that I had brought that up at the end. I think we can bring it back to the executive committee and the executive committee can then, after reviewing it, bring it to the Policy Board; just to refresh people's memory and to see if we need to make any changes in light of having 50-some-odd conservational equivalency proposals in our Striped Bass Addendum IV.

CHAIRMAN DANIEL: And the executive committee is moving forward with looking at that, because really that is not the intent of the conservation equivalency; at least not in some people's opinion. We're going to look at that in more detail. All right, if nothing else on that, we'll go to Mr. Bull from Virginia.

MR. JOHN M. R. BULL: I'm going to make this succinct and not trespass on the board's time here; it has been a long day here. I have a couple of issues that are related to black sea bass management coastwide. As some of you may know, last year the National Marine Fisheries Service was considering an early closure coastwide here for fears that we were going to blow through the coast-wide quota; and there was a bit of an overage.

The impending potential early closure caused me some great concerns and it is partially because of how Virginia manages its commercial black sea bass fishery. Our harvesters work on IFQs; and they often delay their harvest until the end of year to time the market. We have significant landings at the end of the year, November and December. The last three years it has averaged 50 to 100,000 pounds, which to some of you I'm sure will seem like an awful lot of black sea bass.

As it stands now if we are faced with an early closure coastwide here, Virginia's commercial harvesters will likely be stuck with some significant quota they will not be able to use. This strikes me as something that we should be concerned about and Virginia is very concerned about this. We keep a close eye on our black sea bass harvest.

We have hail-in and hail-out to keep a real close eye here on the bycatch. The IFQs here give our anglers the opportunity to time their landings so that we're not dumping fish on the market when other states are harvesting in fair numbers. I'm not sure what the right answer to this is; but it strikes me that we could use some commission staff help here in more closely eyeing the landings along the coast to have a better idea if we're going to get close to a coast-wide overage.

I would be very hopeful that the facilitation of transfers would be a tool to help manage that. The other related issue is the payback system. We had bit of an overage coastwide last year; and we don't manage paybacks with black sea bass the same we do with flounder. This isn't a state by state; the state pays back its overage pound by pound. This payback is spread across the coast. No? All right, then I misunderstood that.

In which case, then, really my big concern is the potential for an early closure and what we can do to make sure that doesn't happen. I would hate to see Virginia's IFQ holders here harvesting earlier in the year just to get it out of the way and not risk it when it wouldn't be to anyone else's benefit that would happen. I'm open for any questions and my thanks for consideration and the time.

MS. KERNS: John, just to inform the Policy Board, for those that aren't a part of the Summer Flounder, Scup and Black Sea Bass Board, the commission does monitor the quota. We rely on the NOAA Quota Monitoring Report. That information does have delays in reporting as dealers don't always report on time or have errors and changes to their reporting.

When we see that a state is getting close to their quota, we let that state know and then the state takes action to close their fishery. I know in recent past, for example, the state of New York was informed by NOAA Fisheries that they had made an error in their reporting, which caused the state to go over their quota; which they wouldn't have done if there hadn't been the error in the reporting through the system.

We will be sure to keep an eye on that. We can talk with ACCSP to see if there is more up-to-date information that we can use to try to get that to stay on top of it. I know the states themselves also do their best to stay on top of the quota. With such a small quota for black sea bass, it can be difficult to manage that quota in states like Massachusetts where at times their quota is achieved in a week's time, which can be difficult to stay precisely on the quota.

In terms of overages, what we do is if the coast-wide quota is not achieved, then any state's overages is cleared because the coast-wide quota was not achieved. When the coast-wide quota is achieved and there are overages, we take the overage out of the states that had overages proportional to the overage that they achieved. Just in case there were some underages, we'll account for those from the other states; and then those states that had overages will come out of their state-specific quota for the next year.

MR. BORDEN: Mr. Chairman, this is kind of an unusual situation because John's fishery is being managed with an IFQ. It is almost like we should set up a dialogue between our staff and the Virginia staff and NMFS and just talk about the problem more in detail and figure out – I mean, logically to me we would exempt Virginia from any federal closure that resulted as long as they adhered to their IFQ. In other words, they're constrained by their IFQ.

If they catch it during the last week of the season, the problem here is – and I want to be explicit – the problem is if all the states have an overage and NMFS looks at the projections and then they close based on that and Virginia has 100,000 pounds left for the last two weeks, they get closed out when there is no need to close them out. That is the problem so I think you could resolve this with a discussion to some extent.

MR. SIMPSON: Yes; I think the issue comes up because with joint management, the Mid-Atlantic Council manages the coast-wide quota. It is the commission that is doing the state-by-state quota. What is happening is the federal looking at the big picture, seeing we're at an overage and closing the whole coast; and that is jamming Virginia's plans up.

CHAIRMAN DANIEL: Yes; it creates a problem. I mean we run into a similar situation with summer flounder where we have to get our season – we don't want to go too early for our fall fishery in fear that we might go over and have a coast-wide closure before our season is over. We have a similar problem to that issue in summer flounder; but my understanding is that when NMFS closes it, they wouldn't give you an exemption. We'd have to somehow come up with an agreement that they wouldn't pin the Virginia boats for being in the EEZ with black sea bass. Did you have something, Dave?

MR. BORDEN: I just kind of echo what I said before. I think it is going to be problematic for this committee to kind of deal with this. I think we need somebody to go work on the situation and just talk about all the different aspects of it – I think they're well known – and then bring a recommendation back that kind of addresses not only John's concerns but some of your concerns. There has got to be a different way to handling this given the situation. Thank you.

MS. KERNS: The other issue that we have is that North Carolina's landings are only north of Hatteras; but we look at the quota it is all of North Carolina's landings. The projections that come from NOAA do not proportion out the

southern part of North Carolina's landings; and so it also makes us look like we're going to hit the quota sooner than we are. We continue to work with NOAA on that issue.

There had been discussions in the past with the Mid-Atlantic Council about aligning the plans to have state-by-state allocations in the federal plan as well as the commission plan. We've moved ahead with different priorities for amendments; and so it is an issue that could come back. John or Rob, since Rob sits on the council for Virginia, can bring that issue up as another way to address it. We can continue to follow up with NOAA Fisheries on some of these issues.

CHAIRMAN DANIEL: Well, one little piece of other business that I had that I'll go ahead and lay out there is I talked with John Bullard before he left. He has been coming to these meetings. One of the things that he was hoping to do – and I kind of missed the hint, I guess – was that there would be opportunities at the executive committee for the state directors, primarily, that stood on the executive committee, but others as well, to have an opportunity to dialogue with John.

What I was going to do is talk with Toni and Bob and try to get a little longer executive committee meeting that would give us at least say a half an hour at the beginning of the meeting or whenever to have an opportunity to have dialogue with him. I think this would be a good first topic that we could put on that agenda for the next executive committee.

That would be an open session. I think you've got some issues there and with the IFQs, I think we'd want to try to support those where they're used and try to get good information back on that controversial way to manage the fishery. I think it is a good attempt. Did you have something, Doug?

MR. GROUT: Yes; I agree with that. In fact, I thought we had already planned to have a half-day executive committee meeting before the August meeting to not only talk with John but the Southeast Center representative. They were going to come up and talk to us about a variety of issues, including next year's fiscal budget. I think that should be already planned for our August meeting.

CHAIRMAN DANIEL: And just for future executive committee meetings, that is one of his intents is to try to have that time; so I think that's a great opportunity, John. Is that satisfactory to you?

MR. BULL: That satisfies me very much. Thank you very much; I appreciate the help here.

CHAIRMAN DANIEL: Anything else on that issue? If not, the last issue, Emerson, with the RSA.

MR. HASBROUCK: Just to recall that last summer the Mid-Atlantic Fishery Management Council suspended the research set-aside program. While it is suspended, the council was to develop a plan to address problems with the RSA Program and to make recommendations to improve that program.

Some of the discussion last year at the council was that in early 2015 the council was going to develop a working group and hold a workshop to move the process forward. I haven't heard anything about activity related to restarting the research set-aside program. There are people around this table who also sit on the Mid-Atlantic Council and our executive director attends those meetings

I would just ask that we continue to put some pressure on the council to move this process forward so that it doesn't slip onto the back burner and then just completely off the stove and forgotten about. The program was suspended for 2015. If progress is not being made here, it won't be anything in place for 2016; and if we don't start doing something relatively soon, it will be too late for 2017. I

would like to not have that program pie just because of lack of activity.

CHAIRMAN DANIEL: We can do that; staff says we can do that and get that word out. Dave.

MR. BORDEN: Mr. Chairman, have we ever defined our role in the discussion? I guess this was a question for Toni.

MS. KERNS: I can't answer the status of where they are because I did not go to the last Mid-Atlantic Council Meeting. I'm sorry, Emerson, that I am not able to provide that information. We have talked with the council and Bob does sit on the RSA Committee as well as the council has agreed to invite states that do not have seats on the Mid-Atlantic Council to participate in that meeting when it happens; for example, Rhode Island and Massachusetts who are impacted by RSA measures but don't participate on the council level outside of the New England Council management representative on the council now.

That is how we are moving forward in the talks of the changes to RSA in terms of how we utilize RSA. While it is not part of the FMP, we still do make motions to adjust quotas, et cetera, for RSA measures and that during joint meetings staff has asked that we make sure that reports from RSA projects get reported out during the times when we meet together so that the commissioners can hear about the results of the projects that are funded through RSA jointly with the Mid-Atlantic Council.

MR. HASBROUCK: Thank you, Toni, for your explanation. I just wanted to highlight, though, that many of the species that are included in the RSA Program, we also set the specifications on those and allocate the 3 percent off of the top to go to the RSA Program; so we're very much involved in the process. It comes off of, you know, I don't say the commission's quota, because it is the commission and council, but we're helping to allocate those – or when the program was active, we were helping to allocate those fish.

DR. PIERCE: Another reason to promote discussion as to what is going on with the RSA, to involve Massachusetts and Rhode Island in particular is that, if I understand correctly, the National Marine Fisheries Service has funded NEAMAP, all or most of it; so NEAMAP at least at this time is not dependent on the auction of RSA fish, which means that if that funding continues for NEAMAP; and then collectively the states and the fishing industry from our different states would be in the position to try to get RSA fish to do specific research projects that we feel will be of benefit to our management initiatives as opposed to just giving it to the auction for them to do with as they see fit involving recreational fishermen and commercial fishermen in a way that I don't care to – well, I won't go there.

It will be used in the way it was originally designed to be used for good research as opposed to just giving it to NEAMAP. I'm looking forward to progress on the part of the Mid-Atlantic Council with our involvement to get this thing done and resolve the problems that have been identified.

CHAIRMAN DANIEL: We'll make it happen. Toni says we'll make it happen. That is all I have, but I wanted to go back to Item Number 9, because I cut off discussion on the winter flounder letter, thinking that I was running out of time. The next meeting is not until 2:30; so I did cut off debate there. I know Tom Fote had his hand up to speak. I don't know if there were others; but, Tom, if you want the floor to speak – I'm sorry to bring that up without notice, but I felt like I should give you that opportunity.

MR. FOTE: All I was wanting to say is I would like to see what areas would – this is the first I've heard about the dredging issue; and that is really is what pushing this is people wanted the areas designated not as winter flounder areas

so they could dredge during the period of time that their eggs could be possible.

Now, from Atlantic City south it is questionable whether those eggs are presents, but there are a lot of areas I know that there are still eggs present. I want to see what exactly was passed by the New England Council. It seems that we never got word of what was going on. When you get that information, would you please make sure I get a copy of it?

CHAIRMAN DANIEL: We will. That I think was everything and all the people I had signed up to speak. I thought I was more pressed for time than I actually was.

ADJOURNMENT

CHAIRMAN DANIEL: If there is no other business to come before the ISFMP Policy Board, we will adjourn.

(Whereupon, the meeting was adjourned at 2:25 o'clock p.m., May 6, 2015.)

Atlantic States Marine Fisheries Commission

Guidelines for Resource Managers on the Enforceability of Fishery Management Measures

Developed by ASMFC's Law Enforcement Committee

Second Edition
2015

Vision: Sustainably Managing Atlantic Coastal Fisheries

Introduction

The Law Enforcement Committee (LEC) of the Atlantic States Marine Fisheries Commission (ASMFC) prepared the *Guidelines for Resource Managers on the Enforceability of Fishery Management Measures* (*Guidelines)* in 2009. In keeping with ASMFC direction to periodically review and update the guidelines, the LEC has prepared this second edition, effective January 1, 2015. The core of the new *Guidelines* is an enforceability matrix for fishery management measures. The matrix table was developed from the responses to a survey of LEC members. The enforceability ratings cover a variety of management strategies are employed in marine fisheries management programs. Ratings for these strategies are based on overall, dockside, at-sea and airborne enforceability. The LEC strongly encourages managers to take into account the enforceability of all management regulations. The *Guidelines* support and strengthen the effectiveness of ASMFC efforts to conserve marine fisheries resources.

Acknowledgements

The LEC gratefully acknowledges current and past members who contributed time and expertise to the *Guidelines.* We thank NOAA Fisheries Northeast Division of the Office of Law Enforcement, NOAA General Counsel Northeast Enforcement Section, and United States Coast Guard Districts One and Five, authors of the *Enforceability Precepts for Northeast Regional Fishery Management Councils (June 2013),* for sharing their publication with us and allowing us to incorporate selected material from that document. We thank Toni Kerns and Tina Berger for assistance in developing the survey and matrix. We also acknowledge the opportunity afforded our committee by the commissioners and staff at ASMFC to revise the 2009 *Guidelines,* and to make them available for general use and reference.

How to Use This Document

The *Guidelines* are organized into three sections for ease of reference.

SECTION ONE (Page 4)
This section provides general guidance in the form of **general enforcement precepts** that should be considered when evaluating fishery management options or strategies. These precepts apply regardless of the species or area under consideration.

SECTION TWO (Page 6)
This section presents the relative **enforceability ratings** of specific management options. Using a matrix table, readers may quickly identify the relative enforcement characteristics of the management strategies, including their overall, dockside, at-sea and airborne ratings.

SECTION THREE (Page 8)
This section provides details regarding the **enforcement strategies and recommendations** for the management measures covered in the *Guidelines*.

SECTION ONE
General Enforcement Precepts

SIMPLICITY

The most enforceable regulations are generally always those that are simple, realistic, easy to understand, and presented in an accessible way to the regulated community.

Simple, straightforward regulations are easier for the regulated community to understand and remember which is critical for voluntary compliance. They are also more enforceable because violations of simple regulations are easier to detect and to prove. For example, a simple regulation such as "possession of an undersized fish on a commercial fishing vessel" stands on its own. A violation of this regulation would apply regardless of where the fish was taken, how it was harvested, or any other regulatory variable. Conversely, complex regulations are more susceptible to confusion, misunderstandings, and differing interpretations among the regulated community, law enforcement personnel and the court system.

The proliferation of regulations frustrates industry as well as law enforcement personnel. Cumulative, piecemeal modification of regulations to address fishery or environmental changes inevitably leads to more complex and occasionally even contradictory regulations unless the entire suite of regulations for a particular species is carefully reviewed in its entirety when modifications are made.

Every effort should be made to write regulations in simple, clear language that avoids jargon or technical terminology. And where possible, all related regulations for a given species should be bundled or linked together in the appropriate regulatory format.

CONSISTENCY

Regulations should make every effort to minimize exceptions and exemptions. Wherever possible, managers should adopt the same management measures among different fishery management plans, across different state boundaries, and between state and adjacent federal waters.

Anytime there is an exception to a regulation, such as under a conservation equivalency, there is the potential to make the regulation more difficult to enforce. The LEC recognizes that conservation equivalency is an important tool for fishery resource managers working within the collaborative structure of the ASMFC. However to the extent possible, states should make every effort to work within a regional or coast-wide regulatory framework. This is especially important where two or more states share contiguous waters or concentrated fishing areas. When individual states choose conservation equivalency, this document should be used to select management measures that are the most enforceable.

To the extent possible, there should be consistent definitions of terms for management measures, gear types or use, measurement standards, regulatory areas, and between federal and state waters.

STABILITY

Regulations should avoid frequent changes. When this occurs there must be a concerted outreach and education effort to adequately inform the public. This principle especially applies to recreational angling, where bag or size limits change from year-to-year diminish enforceability and increase the likelihood of unintentional violations.

Enforcement personnel may require several years just to provide adequate training or to get the equipment necessary to implement new or modified regulations. More frequent changes in regulations might result in very little effective enforcement during those short regulatory time frames.

EFFECTIVENESS

In general, the most effective regulations from an enforceability perspective are those based on controlling effort (closed area or season), and not the outputs (catch quota, trip limits). Effective regulations promote rather than hinder voluntary compliance. Effective regulations take into account and are matched up with available enforcement staffing, funding, technologies and equipment.

In addition to adding complexity, the proliferation of new regulations often requires new or significantly enhanced enforcement resources. If new resources are not provided, enforcement will need to shift effort from what is currently being enforced. This can result in an arbitrary prioritization of enforcement effort that may or may not correspond to the conservation needs of the species affected.

Certain management measures can enhance effectiveness. For example, regulations that can be enforced through more than one means, or at more than one point during fishing operations, allow enforcement some flexibility in using available resources in the most efficient way possible.

Any regulations that strengthen documentation and labeling of fish and fish products would enable law enforcement personnel to more effectively track products back to the harvester and/or the initial purchaser and to intercept unlawful seafood at various points between harvest and final sale for consumption.

Enforcement tools such as electronic reporting and vessel monitoring systems (VMS) have greatly improved the effectiveness of certain regulations by allowing enforcement staff to focus effort on high priority areas. These tools do not replace traditional enforcement but rather complement patrol work and inspections.

SAFETY

Regulations should be designed such that they do not create an unintended safety-at-sea issue. For example, specified allowable days for fishing may increase pressure to go out to sea when weather conditions are unsafe. Likewise, establishment and design of closed areas should take into account safe and direct transit needs of fishermen when weather conditions change rapidly.

SECTION TWO
Enforceability Ratings

The 2009 *Guidelines* included a survey of voting members of the LEC to numerically rate the enforceability of 19 management measures based on four categories: overall, dockside, at-sea and airborne enforceability. For this revised edition of the *Guidelines*, 15 LEC members completed a new survey using a simpler, qualitative ranking and an expanded list of 26 management measures. Each management measure was rated for its overall, dockside, at-sea and airborne enforceability using a 3-tiered scale of "no" "limited" and "yes". Additionally, the overall enforceability of each management measure was rated numerically on a scale of one to five (1=poorest, 5=best).

The results of the updated survey are presented below in a visual matrix. Management measures were arranged in descending order of their average overall numerical ranking from the survey. Color coding represents the relative enforceability of the 4 enforcement categories (overall; dockside; at-sea; airborne) based on survey responses using the 3-tiered qualitative scale (yes; limited; no). Color selection was based on the following 3 rules:

1. If any one tier (yes; limited; no) received greater than or equal to 65% of responses, the representative color for that tier (green, yellow or red) was shown.
2. If only two tiers were selected, the representative color of the tier with the greater response was shown (green, yellow or red).
3. If all three tiers received selections, and none were equal to or greater than 65%, than that cell was shown as yellow (limited).

ENFORCEABILITY OF MARINE FISHERIES MANAGEMENT MEASURES

MANAGEMENT MEASURES	Average Ranking	OVERALL RATING	DOCKSIDE RATING	AT-SEA RATING	AIRBORNE RATING
Bag and Possession Limits (low volume)	4.67				
Minimum/Maximum Size Limits	4.67				
Permits	4.67				
Prohibited Species	4.67				
Closed Seasons	4.60				
Closed Areas	4.53				
Gear Marking Requirements	4.07				
Gear Regulations except Method of Take	4.07				
Method of Take	4.07				
Bycatch Prohibitions	4.00				
Slot Limit	4.00				
Trophy Fish Allowance	4.00				
Vessel Monitoring Systems (VMS)	3.87				
Gear Restricted Areas	3.67				
Electronic Reporting	3.67				
Trip Limits (Daily)	3.47				
Days at Sea	3.27				
Annual Quotas	3.07				
ITQ/IFQ/LAP	3.00				
Bycatch Limit (weight or volume)	2.73				
Trip Limits (Aggregate)	2.73				
Catch-Release Fishing	2.60				
Bycatch Limit (percent of total catch)	2.27				
Harvest Tolerances (wt./vol./percent)	2.27				
Targeting Prohibition	2.21				
Limited Drag or Soak Time	1.93				

SECTION THREE
Enforcement Strategies and Recommendations

This section provides information about each of the management measures considered in the *Guidelines.* Included is a brief definition of the measure, its numerical ranking based on the survey results and some points for consideration when drafting regulations. For ease of organization the management measures are listed alphabetically.

ANNUAL QUOTAS

Definition: A specified amount of a particular species is allowed to be landed per fishing year (or fishing season). Typically a quota is established for the entire fishery, and occasionally is subdivided by region or time. Quotas are not usually employed for recreational fisheries.

Average Overall Rating: 3.07

Recommendations:

- A straightforward opening and closing of fishing to meet quota objectives is preferred over measures that will extend fishing, such as trip-limit triggers or progressive area closures, which complicate enforcement efforts.
- Incentives to under-report or not report are greater, so available enforcement resources must always be considered to ensure proper accounting of catch. Requirements for electronic reporting, daily or weekly reporting, on-board monitoring or tagging regulations can aid the enforcement effort. A well-designed catch documentation scheme to track fish from harvest to offloading, and through the processing and shipping phases, adds transparency and effective accountability.

BAG/POSSESSION LIMITS (low volume)

Definition: A specified amount of a particular species is allowed to be landed per trip, per fisherman or per vessel. Low volume limits are generally established as some number of fish that is easily counted on board. They typically apply to recreational fisheries. In some cases, commercial fishers may also be subject to low bag or possession limits.

Average Overall Rating: 4.67

Recommendations:

- This measure remains one of the most easily definable ways to quantify allowable harvest. It is easy to enforce and prosecute. It is simple.
- Bag and possession limits should be consistent across state and federal boundaries. The standard of measurement should be clear if the limit is based on weight.
- A possession limit is superior to a landing limit and allows for at-sea as well as dockside enforcement.

- Requiring fish to remain intact facilitates identification. Particularly for large-party charters, processing at sea or filleting out catch on board complicates enforcement. Where processing at sea is allowed, enforcement staff should be consulted. Supporting regulations requiring that skin must remain on filets, counting two filets as one fish regardless of size, or requiring retention of "racks" may aid enforceability in specific circumstances.
- Enforcement personnel find that frequently changing bag limits are difficult for fishermen to follow. Maintain limits for a minimum of 3 years to ensure consistency of enforcement and greater compliance.

BYCATCH LIMIT (Weight/volume)

Definition: Bycatch limits restrict, but do not prevent, the incidental harvest of non-targeted or otherwise protected species in the course of legal fishing activity.

Average Overall Rating: 2.73

Recommendations:

- These limits, often large weights or volumes, are difficult to enforce and even more difficult to prosecute.
- Enforcement would be enhanced if bycatch was required to be segregated from the targeted species. Accurate count of catch onboard cannot easily be done at sea due to species mixing, loading, icing, safety of boarding party in accessing the fish hold at sea, etc.
- Enforcement of bycatch limits typically are time and labor intensive.
- Bycatch limits and measurement standards should be consistent across jurisdictions.

BYCATCH LIMIT (percent of total catch)

Definition: Bycatch limits restrict, but do not prevent, the incidental harvest of non-targeted or otherwise protected species in the course of legal fishing activity.

Average Overall Rating: 2.27

Recommendations:

- These limits, especially when there may be large quantities on board, are difficult to enforce and even more difficult to prosecute.
- Enforcement would be enhanced if bycatch was required to be segregated from the targeted species.
- Enforcement is very time and labor intensive to verify the percentage of the catch that is bycatch, and to successfully document excessive bycatch volumes.
- Bycatch limits and measurement standards should be consistent across jurisdictions.

- Regulations should specify how much target species catch is required to justify retention of bycatch species and in what amounts. This is necessary to prevent a bycatch species from becoming the target species.

BYCATCH PROHIBITION

Definition: Incidental retention or possession of non-targeted or otherwise prohibited species caught during normal fishing operations is prohibited. Any bycatch must be discarded immediately. It may not be retained.

Average Overall Rating: 4.00

Recommendations:

- A bycatch prohibition is the easiest and most effective enforcement measure for bycatch.
- The enforceability of a bycatch prohibition is reduced if adjacent or nearby jurisdictional waters allow limited bycatch quantities (weight, volume or percent of catch).
- Because of perceptions of waste from discarding bycatch, other regulations (gear specifications, soak times, area restrictions) may be implemented to minimize the likelihood of catching incidental or non-targeted species in large quantities. Enforcement challenges presented by these other regulations may negate the enforceability advantage of a full bycatch prohibition.
- Clearly identify when possession of a prohibited species is restricted (i.e., returned to the sea as soon as practicable).

CATCH-RELEASE FISHING

Definition: A fish or marine organism cannot be retained but must be immediately released at the site of capture without any unnecessary harm or destruction. This is typically applied to certain recreational fisheries. Temporary possession may be allowed for proper identification, photographing, or determining compliance with applicable regulations.

Average Overall Rating: 2.60

Recommendations:

- Regulatory language should clearly specify the conditions for any temporary possession of a catch-release species on board (Identifying, measuring, photographing).

CLOSED AREAS

Definition: Fishing in a specified area is prohibited.

Average Overall Rating: 4.53

Recommendations:

- It is critical to have clearly defined areas. Use exact latitude/longitude and straight lines with regularly shaped areas as much as possible. Avoid general descriptions such as distance offshore, or a center point and radius. Do not use depth contours to define closed areas.
- Closed areas are more likely to be understood by fishermen, and to result in less unintentional non-compliance, if they are regular in shape, and where possible, oriented north-south and east-west in concert with latitude/longitude boundaries.
- While clearly defined, regularly shaped and large areas simplify enforcement, advances in tracking and monitoring technology are mitigating factors that might allow for smaller, irregularly shaped closed areas, especially when such areas are more likely to garner support and compliance, enhance safety at sea, or better protect fish and habitat.
- Successful prosecution of violations must generally include the capability to conduct vessel monitoring, aerial and at-sea surveillance. Even with VMS capability, law enforcement must document the violation at-sea to gather sufficient evidence for prosecuting the violation.
- Depending on the fishery and gear type, restrictions on only certain activities within a closed area may require at-sea boarding to document a violation.
- The more complete the closure to all fishing activity, the easier it is to enforce and successfully prosecute violations.
- Large, contiguous areas are preferable to more numerous, smaller areas.
- If possible, the area should be closed to transit with fishing gear onboard. If transit is allowed, regulations should clearly specify the proper stowage of fishing gear during transit through the closed area. Transit must be specified as continuous, direct and expeditious. If an allowance for loitering or stopping is included in regulations, there should be a mandatory call-in or reporting requirement.
- Gear closure areas or regulated mesh areas are very difficult to enforce. If regulations only prohibit the use of a particular gear type within a closed area, possession of that gear within the closed area should be prohibited.
- Temporary or short-term rolling closures are very difficult to enforce and increase the likelihood of unintentional violations because communicating the requirement to the fishing fleet can be challenging. In addition, shifting closed areas within a season increases the confusion of enforcement officials on the current status of an area.

CLOSED SEASONS

Definition: A specific fishing activity is prohibited during certain times of the year.

Average Overall Rating: 4.60

Recommendations:

- It is important to clearly define the date and times of seasonal closures, even to the minute.

- Describe what activity is allowed to occur before, during, and after the closure. For example: "all gear must be hauled in prior to the closure and gear may not be set prior to opening the closed area."
- For high-value, short-duration fisheries, fishing for other species with the same or similar gear should be prohibited for at least 72 hours before and after the established closed season.
- Minimize exemptions or exceptions to prohibited activities during the closed season. If possible, avoid allowance of gear placement or transport prior to the opening of a closed season.
- Enforcement is enhanced if retention, possession, purchase and sale of species included in a seasonal closure are all prohibited. Possible violations could then be inferred if a covered species is encountered in the market during a closed season, and would prompt an investigation into the origin of any fish or product encountered and how it got to market.
- Fisheries in which smaller vessels participate are more difficult to monitor during closed seasons. Small quantities of fish can be more easily hidden in the marketplace, or sold outside of normal market channels or dealers when the season is closed.

DAYS AT SEA

Definition: A specified amount of days are allotted for fishing for a particular species. Days at Sea are typically allocated to individuals or groups.

Average Overall Rating: 3.27

Recommendations:

- In its simplest form, without any exceptions or exemptions, this is enforceable. However it is manpower intensive unless VMS or other electronic tracking is implemented.
- Additional complicating regulations, such as associated trip limits, should be avoided.

ELECTRONIC REPORTING

Definition: Data transmission, electronic logbooks or other digital recording systems are used to record harvest activity on a vessel. Enforceability is based primarily on use in commercial fishing operations.

Average Overall Rating: 3.67

Recommendations:

- Reporting systems should be established to record and transmit data as soon as possible after actual harvest activity occurs.
- Delayed reporting should be specified to occur on a daily or weekly basis. Long delays between harvest activity and required reporting intervals greatly reduce the effectiveness of enforcement monitoring.
- Data storage systems should be readily accessible to enforcement personnel in the field or on the water.

GEAR MARKING

Definition: Regulations require specific marking of gear to identify the owner or permittee, to mark the location of gear that may not be visible at the surface, or for other identification purposes.

Average Overall Rating: 4.07

Recommendations:

- Regulations specifying the marking of gear should be clear and unambiguous as to the exact markings to be used, tags or tag placement, information included on any markings, visibility requirements or size of markings, and all other marking details to ensure standardized criteria can be enforced.
- Exceptions or exemptions to any gear marking requirements hinder overall enforcement efforts.
- To the extent possible, markings should be required to be located where they can be easily and quickly inspected by enforcement personnel.

GEAR REGULATIONS (excluding method of take)

Definition: Specific gear types or gear modifications are restricted or prohibited. "Gear" might include not only the primary methods and tools to harvest the resource, but also include the vessel, horsepower, the number of traps, mesh size and other such variables. In some cases gear regulations might stipulate a particular type or design (e.g., bycatch reduction devices or escape panels on traps).

Average Overall Rating: 4.07

Recommendations:

- Limitations on the amount of fixed gear/hooks, traps or pots is extremely difficult to enforce and manpower intensive to monitor on the water.
- Regulations stipulating how gear is to be deployed (e.g., soak time, net or trawl depth) are difficult to enforce because of inspection requirements once the gear is deployed or being actively worked.
- Monitoring and checking gear requires specialized equipment and training, and enforcement agencies may incur liability costs while handling gear.
- If a gear limitation is employed to restrict or control catch, an associated catch limitation should also be implemented. For example, a mesh size restriction to control the size of fish caught should have a companion minimum or maximum fish-size regulation.
- Standardize gear requirements, measurement procedures, equipment and techniques across all appropriate jurisdictions and time periods.
- Trap limits are more enforceable in conjunction with trap tags being required on all traps at-sea (i.e., not transferable from trap to trap while underway).

- If a specific type of gear is prohibited for use in a fishery, then carriage of the gear type should also be prohibited.

GEAR RESTRICTED AREAS

Definition: Areas where the use of specific fishing gear is prohibited. Regulations may also prohibit the possession of such gear in the specified area.

Average Overall Rating: 3.67

Recommendations:

- These are manpower intensive regulations to enforce. A gear restricted area often requires a boarding to determine if specific gear is legal, such as nets of a specific mesh size.
- In general, gear prohibitions are more enforceable than gear restrictions. Areas prohibiting nets are more enforceable than areas restricting certain net mesh sizes. Trap prohibitions are more enforceable than restrictions on certain trap types or sizes.
- Prohibit possession of restricted gear, rather than prohibiting "use" in a gear restricted area.
- Do not allow the use of similar gears within the area. Law enforcement assets may be able to differentiate between a trap boat and a dragger from a distance, but will probably have to conduct a boarding to differentiate between two types of draggers.

HARVEST TOLERANCE (weight/volume/percent)

Definition: A catch is allowed to exceed a legally defined limit of allowable harvest by a defined amount. This may allow retention of over or undersized animals or retention of a defined amount of harvested species over a specified landing limit.

Average Overall Rating: 2.27

Recommendations:

- Tolerances are often applied to large catches or landings, and so they may require extensive time and labor to verify the weight, volume or percentage of the catch that exceeds a specified limit.
- Additional tools or equipment may be required to assess amounts of catch exceeding a specified limit.

ITQ/IFQ/LAP

Definition: Individual or vessel quotas, where a specified amount of the total allowable harvest of a species is allotted to that individual or vessel. Such individual allotments may be taken over the course of a fishing season or year. This management measure is considered as it applies to commercial fishing operations only.

Average Overall Rating: 3.00

Recommendations:

- Enforcement is limited by the ability to monitor and verify individual quota limits and reported harvests under that quota. Real-time access to landings information is essential.
- Regulations must limit the number and location of authorized landing points to ensure proper harvest monitoring and dockside enforcement.
- Specific call-in procedures should be established to maximize dockside enforcement capability.
- Monitoring and enforcing individual quotas is labor intensive. Because of variable and extended time frames during which an individual could fish, it is difficult to focus enforcement efforts for maximum effectiveness.

LIMITED DRAG OR SOAK TIME

Definition: This management measure limits the amount of time between deploying and hauling back the gear, normally to allow for live discards of bycatch. This management measure is considered as it applies to commercial fishing operations only.

Average Overall Rating: 1.93

Recommendations:

- This management measure received the lowest overall rating out of the 26 measures considered in the *Guidelines*.
- Ensuring that specified time limits are followed requires close, at-sea enforcement of fishing operations, and/or onboard observer capabilities.
- Electronic reporting, onboard video monitoring, and vessel monitoring systems provide needed additional support for enforcement monitoring.

MAXIMUM/MINIMUM SIZE LIMIT

Definition: Possession of fish below/above a specified size, or inside/outside a defined "slot" limit, is prohibited.

Average Overall Rating: 4.67

Recommendations:

- This type of regulation is considered among the more straightforward and enforceable regulations, at least as it would apply to small quantities of catch.
- Standardized measurements, procedures, equipment and techniques must be used across jurisdictions to be effective.
- Exceptions allowing at-sea or onboard processing hinder enforceability. There should not be any allowable filleting at sea. Measurement standards should stipulate head and tail intact.
- Maintain size limits for a minimum of 2-3 years to maximize compliance.
- Clearly spell out exactly how a species is to be measured in the regulation.
- Specified size tolerances are not necessary, and complicate officer discretion in dealing with individual violations.

METHOD OF TAKE

Definition: A regulation stipulating a particular type of gear or fishing operation for legally harvesting a species. *See also "Gear Regulations (excluding method of take)"*.

Average Overall Rating: 4.07

Recommendations:

- If a certain gear type is prohibited, that gear should not be allowed onboard if otherwise legal fishing gear or operations are being employed.
- Regulations should specifically prohibit the possession of any net with prohibited mesh sizes from being onboard the vessel; similarly, if a net, pot, longline or other gear type is required to be modified to reduce bycatch, then the possession of any gear not properly modified should be prohibited, not just prohibited from use.

PERMITS

Definition: Fishing (usually for an identified species) is only authorized by the issuance and possession of a permit.

Average Overall Rating: 4.67

Recommendations:

- This is considered among the more straightforward and enforceable regulations.
- Successful enforcement depends on real-time access to permit-holder databases. Technologically sound permit tracking systems should be implemented or already in place for any permit requirement.
- Laws or rules should provide for permit suspension and revocation upon successful prosecution of fishing violations.

- Permit numbers should be required to be displayed on commercial fishing vessels. Permits must be in possession of the fisherman or vessel at all times.

POSSESSION/BAG LIMITS (low volume)

Definition: A restriction on the number of animals of a given species that may be caught and/or possessed by a fisherman, a group of fishermen, or onboard a vessel.

Average Overall Rating: 4.67

Recommendations:

- This is considered among the more straightforward and enforceable regulations, at least as it would apply to small quantities of catch.
- Enforcement is enhanced if any allowed bycatch species is required to be segregated from a larger catch of another or multiple species.
- Allowable quantities should be clearly stipulated and standardized across all appropriate jurisdictions.

PROHIBITED SPECIES

Definition: Possession or retention of a particular species or group of species is prohibited.

Average Overall Rating: 4.67

Recommendations:

- This is considered among the more straightforward and enforceable regulations.
- For difficult-to-identify species, it may be necessary to include species groupings in a prohibition, or to ensure adequate identification training and tools for both fishermen and enforcement personnel.
- Prohibitions should be restricted to a species or group of species across the board. There should be no exceptions for where it was taken or how it was harvested.
- Any permitted species kept on board must remain in a form easily differentiated from similar prohibited species.

SLOT LIMIT

Definition: Retention and/or possession of any species outside of a specified size range is prohibited. A slot limit may prohibit possession between a certain size range, or it may prohibit possession above or below a certain size range.

Average Overall Rating: 4.00

Recommendations:

- Regulations should clearly stipulate the range of the slot size and measurement standards should be consistent across all appropriate jurisdictions.
- Provisions allowing onboard filleting of fish or other processing of animals greatly hinder enforcement of slot limits.

TARGETING PROHIBITION

Definition: A regulation that prohibits the act of fishing for a particular species, to the exclusion of effort to catch other species.

Average Overall Rating: 2.21

Recommendations:

- This management measure is among the least enforceable of the 26 considered in the *Guidelines*.
- Enforcement would require a level of physical observation and surveillance beyond the scope of most agencies.

TRIP LIMITS (daily)

Definition: A specified amount of a species is allowed to be caught and possessed onboard or landed by weight, volume or number, on a daily basis. In most situations this applies to commercial fishing regulations. It is a form of possession limit intended to slow down the rate of harvest in a commercial fishery.

Average Overall Rating: 3.47

Recommendations:

- Enforcement is typically restricted to dockside, and requires adequate measuring capability while offloading. Checking and verifying a trip possession limit at sea is extremely difficult.
- A "possession limit" as opposed to a "landing limit" would allow more at-sea enforcement.
- There is a significant time and labor commitment to enforcing such limits, even at dockside.
- When daily trip limits are implemented a limited number of designated landing points, and advance reporting of landing would enhance enforcement.
- Limit any at-sea processing to ensure accurate identification of species subject to trip limits at dockside.
- The trip limit or possession amounts should be consistently defined and used across all appropriate jurisdictions, along with any measurement standards and techniques that are to be applied.
- Allowance for multi-jurisdictional trip limits greatly hinders successful monitoring and enforcement.

TRIP LIMITS (aggregate)

Definition: A specified amount of a species is allowed to be caught and possessed onboard or landed by weight, volume or number, covering a specified number of days' daily trip limits. In most situations this applies to commercial fishing regulations. It is a form of possession limit intended to slow down the rate of harvest in a commercial fishery. Aggregate limits allow a vessel to remain at sea fishing, rather than having to come to port with each day's harvest limit.

Average Overall Rating: 2.73

Recommendations:

- Most of the difficulties or concerns with enforcing daily trip limits would still apply to aggregate trip limits.
- It is even more difficult to enforce an aggregate trip limit at sea.
- This type of regulation allowing for a vessel to remain at sea and catch multiple daily trip limits essentially precludes any significant at-sea enforcement.
- It is extremely difficult to monitor the actual number of days at sea spent fishing, or matching up a total aggregate landing with the number of days spent fishing.

TROPHY FISH ALLOWANCE

Definition: Usually applied in recreational fisheries, it allows retention of one or more fish over a specified maximum size or slot limit.

Average Overall Rating: 4.00

Recommendations:

- Any allowance for filleting or processing at sea hinders enforcement of such provisions.
- Measurement standards should be consistent across all appropriate jurisdictions.

VESSEL MONITORING SYSTEM (VMS)

Definition: A requirement to keep a positioning transmitter (transponder) onboard a fishing vessel. The transponder transmits position and movement information at specified time intervals.

Average Overall Rating: 3.87

Recommendations:

- As VMS use is expanded it should incorporate data transmission regarding gear onboard and the fish being targeted. It can increase the efficiency and effectiveness of enforcement patrols and inspections, but does not replace on-the-water or dockside enforcement requirements.
- VMS should be considered for any large-scale fishery that is conducted in remote waters or offshore where at-sea and airborne enforcement is difficult or inefficient.

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 14, 2015

To: Sturgeon Management Board

From: Max Appelman, Fishery Management Plan Coordinator

RE: Transfer of live Atlantic sturgeon from LaPaz, LLC (NC) to Horse Creek Aquafarms (FL)

This memorandum is intended to inform the Sturgeon Management Board that in February 2015, 6,837.6 pounds of Atlantic sturgeon (approximately 600 individuals) were sold from LaPaz Group LLC (LaPaz) in North Carolina to Horse Creek Aquafarms in Florida. These fish were sold for the purpose of commercial production and sale of meat and caviar.

To be consistent with management measures in Addendum 1 to Amendment 1 of the Interstate Fishery Management Plan (FMP) for Atlantic Sturgeon, Horse Creek Aquafarms received approval from the Florida Department of Agriculture and Consumer Services (FL DACS) to aquaculture Atlantic sturgeon for the purpose of commercial production and sale. Horse Creek Aquafarms was certified by FL DACS because their facility met previously established best management practices and complied with state aquaculture regulations. A formal letter confirming the Horse Creeks certification was sent to the Commission. Additionally, the Commission received a copy of the bill of sale from LaPaz to Horse Creek Aquafarms, and a certificate of non-indigenous origin which accompanied the sale. Although the sale of live Atlantic sturgeon by LaPaz to other commercial aquaculture facilities is not explicitly permitted by the FMP, all Atlantic sturgeon sold were from non-indigenous origin, and Addendum 1 permits Horse Creek Aquafarms to culture Atlantic Sturgeon from non-indigenous origin as described above.

With this completed sale, LaPaz no longer possesses Atlantic sturgeon at their aquaculture facility in North Carolina, and has no plans to do so in the foreseeable future.

Horse Creek has been formally briefed on their compliance and reporting requirements detailed in the Atlantic sturgeon FMP. Horse Creek is currently in the process of researching and drafting a formal proposal to the Management Board detailing a mechanism that easily distinguishes their caviar from wild caught origins.

Enclosures: Approval from Florida Department of Agriculture and Consumer Services
Bill of sale from LaPaz to Horse Creek Aquafarms
Certificate of non-indigenous origin

DIVISION OF AQUACULTURE
(850) 617-7600
(850) 617-7601 FAX

THE HOLLAND BUILDING, SUITE 217
600 SOUTH CALHOUN STREET
TALLAHASSEE, FLORIDA 32399-1300

FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES

COMMISSIONER ADAM H. PUTNAM

April 28, 2015

Max Appleman
Fishery Management Plan Coordinator
Atlantic States Marine Fisheries Commission
1050 N. Highland Street, Suite 200A-N
Arlington, VA 22201

Subject:
Horse Creek Aqua Farm
AQ # 5 1 24 018
6817 SW CR 769
Arcadia, FL 34269

Horse Creek Aqua Farm #2
AQ # 5 1 24 019
11751 SE Head Avenue
Arcadia, FL 34266

Dear Mr. Appleman,

Horse Creek Aquafarm and Horse Creek Aquafarm #2 both currently hold an Aquaculture Certification of Registration issued by the Florida Department of Agriculture and Consumer Services – Division of Aquaculture. Both facilities meet all applicable Best Management Practices (BMPs) for the holding and culture of Atlantic Sturgeon. Applicable BMPs include on site containment practices to prevent escapement of all life stages. In addition, both facilities retain all production water on site and do not discharge production water off site. Site visits are conducted routinely to ensure the facilities continue to meet all applicable BMPs.

If you have any additional questions or concerns, please feel free to contact me.

Sincerely,

Serina Rocco

Serina Rocco
FDACS – Division of Aquaculture
170 Century Blvd
Bartow, FL 33830

Invoice

LaPaz Group LLC

3232 Indian Grave Rd
Lenoir, NC 28645

Date	Invoice #
2/9/2015	1263

Bill To	Ship To
Horse Creek Aqua Farm 11751 SE Head Ave, Arcadia, FL 34266	Horse Creek Aqua Farm 11751 SE Head Ave, Arcadia, FL 34266

P.O. Number	Terms	Rep	Ship	Via	F.O.B.	Project
			2/9/2015			

Quantity	Item Code	Description	U/M	Price Each	Amount
6,837.6	ASL01L-COHO...	Atlantic Sturgeon, 75 larger fish		4.50 0.00%	30,769.20T 0.00

Total $30,769.20

Acadian Sturgeon and Caviar Inc.
214 King Street East, Saint John, New Brunswick, Canada, E2L 1H3

Saint John, New Brunswick, Canada
July 24, 2008

To Whom It May Concern,

By this letter we certify that the content of the 2 accompanied boxes, to be exported by our company to LaPaz Group LLC, Lenoir, NC, are Atlantic sturgeon (*Acipenser oxyrhynchus*) fertilized eggs (approximately 25,000 eggs) bred in captivity from wild parents.

If you have any questions I will be happy to answer them at (506) 639-0605.

Yours respectfully,

Cornel Ceapa, PhD
Director

1 (506) 639-0605 (mobile) ; 1 (506) 763 3202 (farm) ; 1 (506) 642-1616 (tel/fax)
cceapa@acadian-sturgeon.com; cceapa@nb.aympatico.ca; www.acadian-sturgeon.com

Atlantic States Marine Fisheries Commission

Business Session

August 6, 2015
10:00 – 10:30 a.m.
Alexandria, Virginia

Draft Agenda

The times listed are approximate; the order in which these items will be taken is subject to change; other items may be added as necessary.

1.	Welcome; Introductions *(L. Daniel)*	10:00 a.m.
2.	Board Consent *(L. Daniel)* • Approval of Agenda • Approval of Proceedings from October 2014	10:00 a.m.
3.	Public Comment	10:05 a.m.
4.	Consider Final Approval of Jonah Crab Fishery Management Plan **Final Action**	10:15 a.m.
5.	Review Non-compliance Findings (if necessary)	10:20 a.m.
6.	Other Business/Adjourn	10:30 a.m.

The meeting will be held at The Westin Alexandria, 400 Courthouse Square, Alexandria, Virginia 703.253.8600

Vision: Sustainably Managing Atlantic Coastal Fisheries

DRAFT PROCEEDINGS OF THE

ATLANTIC STATES MARINE FISHERIES COMMISSION

BUSINESS SESSION

Hilton Mystic
Mystic, Connecticut
October 28, 2014
October 30, 2014

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INDEX OF MOTIONS

ATTENDANCE

Board Members

Terry Stockwell, ME, proxy for P. Keliher (AA)
Steve Train, ME (GA)
Rep. Walter Kumiega, ME (LA)
Doug Grout, NH (AA)
G. Ritchie White, NH (GA)
Dennis Abbott, NH, proxy for Sen. Watters (LA)
Paul Diodati, MA (AA)
Bill Adler, MA (GA)
Robert Ballou, RI (AA)
David Borden, RI, proxy for B. McElroy (GA)
Rick Bellavance, RI, proxy for Sen. Sosnowski (LA)
David Simpson, CT (AA)
Dr. Lance Stewart, CT (GA)
James Gilmore, NY (AA)
Pat Augustine, NY (GA)
Brandon Muffley, NJ, proxy for D. Chanda (AA)
Tom Fote, NJ (GA)
Mitchell Feigenbaum, PA, proxy for Rep. Vereb (LA)
Loren Lustig, PA (GA)
Leroy Young, PA, proxy for J. Arway (AA)
David Saveikis, DE (AA)
Roy Miller, DE (GA)
Bernie Pankowski, DE, proxy for Sen.Venables (LA)
Tom O'Connell, MD (AA)
Bill Goldsborough, MD (GA)
Russell Dize, MD, proxy for Sen. Colburn (LA)
Rob O'Reilly, VA, proxy for J. Bull (AA)
Louis Daniel, NC (AA)
Bill Cole, NC (GA)
Robert Boyles, Jr., SC (AA)
Ross Self, SC, proxy for Sen. Cromer (LA)
Spud Woodward, GA (AA)
Patrick Geer, proxy for Rep. Burns (LA)
Jim Estes, FL, proxy for J. McCawley (AA)
Kelly Denit, NMFS
Bill Archambault, USFWS
Martin Gary, PRFC

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

Ex-Officio Members

Staff

Bob Beal
Toni Kerns
Kate Taylor

Guests

Mike Millard, USFWS
Michael Pentony, NMFS
Arnold Leo, E. Hampton, NY
Raymond Kane, CHOIR
Sally Campen, Global Guardian Trust
Derek Orner, NOAA
Charles Lynch, NOAA
Wilson Laney, USFWS
Kevin Chu, NOAA
Joe Grist, VMRC

The Business Session of the Atlantic States Marine Fisheries Commission convened in the Grand Ballroom of The Mystic Hilton, Mystic, Connecticut, October 28, 2014, and was called to order at 1:30 o'clock p.m. by Chairman Louis B. Daniel, III.

CALL TO ORDER

CHAIRMAN LOUIS B. DANIEL, III: Good afternoon; welcome to the Business Session of the Atlantic States Marine Fisheries Commission.

APPROVAL OF AGENDA

CHAIRMAN DANIEL: You should have copies of the agenda. Is there any other business? Emerson.

MR. EMERSON C. HASBROUCK: Mr. Chairman, under new business I'd like to add in a discussion about the RSA Program.

CHAIRMAN DANIEL: And I believe we have a motion from the Atlantic Herring Section. Anything else. If not, everyone is comfortable with the agenda, we will move on.

APPROVAL OF PROCEEDINGS

CHAIRMAN DANIEL: You should have your Proceedings from our August meeting. If everyone has an opportunity to look over those, if there are no corrections, we will approve by consensus. So ordered.

PUBLIC COMMENT

CHAIRMAN DANIEL: Next is public comment. Is there anyone from the public here that would like to address the business session? Seeing none; and I will turn it over to Mr. Beal.

ELECTION OF COMMISSION CHAIR AND VICE-CHAIR

EXECUTIVE DIRECTOR ROBERT E. BEAL: We are at the part of the agenda for the election of the commission chair and vice-chair. Paul Diodati is the chair of the Nominating Committee, so I'll call on him in a moment. As Paul is giving his Nominating Committee Report, I'll ask Deke to hand out the ballots for this year's election. With that, Paul, if you're ready.

MR. PAUL DIODATI: We have two nominations for chair and the vice-chair, one for each, and it is to continue with our Chairman Louis Daniel and our Vice-Chair Doug Grout. I think there are opportunities on the ballot for a write-in, but those are the two nominees.

EXECUTIVE DIRECTOR BEAL: As the ballots go around, the process is that you guys vote by state. It is not an individual vote, so each state should fill out their ballot and turn them into Paul Diodati. He will add up the votes and he will let us know what the results are. We will pause for a minute as the ballots are filled out and collected. We will give those back to Paul and he can report the results. Has everyone turned in their ballots to Paul? Paul, have you counted them yet?

MR. DIODATI: I don't have any ballots yet. Laura has got them. The results unanimous, fifteen votes for each of our chair and vice-chair. Congratulations! (Applause)

CHAIRMAN DANIEL: Thank you, all, and certainly Doug and I have enjoyed this. Some people have said how do you manage all this? I've told everybody that this is an outstanding opportunity for anyone interested. The staff is just amazing and it really is not a very difficult job with the staff that we have. All of my successes would be geared towards Bob and his crew; so it is them that should get the thanks and the gratitude from us. Thank you all very much for your confidence. With that, I'm turning it over to Toni.

CONSIDER APPROVAL OF THE 2015 ASMFC ACTION PLAN

EXECUTIVE DIRECTOR BEAL: Each of the program directors will run through their portion of the annual action plan pretty quickly. If you guys have questions during their presentation, raise your hands and we'll handle them. Toni is going to start with the fishery management section

MS. TONI KERNS: I'm going to go through the bolded options within Goal 1, the strategy to rebuild, maintain and fairly allocate Atlantic Coastal Fisheries. The non-bolded items are either carryovers from last year of standard practices that we do each year. For American eel, we're going to work with the technical committee to review and develop a strategy to incorporate the pertinent findings from the 2014 AFS into future assessments and management decisions and update the young-of-the-year surveys with the 2014 data.

For American lobster, we will complete and implement the Jonah Crab FMP as directed to ensure the long-term sustainability of the fishery. We will complete the 2015 benchmark assessment and consider our management response to that assessment's findings. The Lobster Board today initiated an addendum for consistency with federal measures; and we will also include that as a task under lobster.

For Atlantic herring, we will review the 2015 specifications to determine if any changes are necessary and review the operational assessment results and consider a management response if necessary and set the specifications for up to three years starting in 2016 through 2018.

Also, for herring we will hold, as necessary, meetings to establish state effort controls and the days-out meetings for Area 1A and 1B; and 1B is new for this year. Also, finalize and implement the measures included in Amendment 3, which proposes management options for spawning area efficacy, fixed-gear rollover provisions and empty fish hold provisions.

Under Atlantic menhaden we will review the results of the 2014 benchmark stock assessment and consider a management response if necessary. We will continue to work with the technical committee and the biological reference points working group to present options for board consideration on ecosystem-based reference points that account for predation effects.

Under Atlantic striped bass we continue the development of Chesapeake Bay reference points or an updated stock assessment, update data needs and consider a management response to the findings of that work.

For Atlantic sturgeon we will continue the development of the 2017 benchmark stock assessment and collaborate with federal agencies to analyze bycatch data and prioritize and process genetic samples for use in the assessment.

Under horseshoe crab we will review all of the possible data sources for the adaptive resource management framework or the ARM, as it is better known, and determine if an alternate data source can be used in place of the horseshoe crab benthic trawl survey data if that survey is not found to get additional funding sources for it. We will also complete and review the artificial bait studies and consider management and publications to the study.

Under northern shrimp we will finalize and implement measures to include an Amendment 3 which proposes a limited entry system for the fishery. Under shad and river herring we will review the products of the River Herring Technical Expert Working Group and consider any of those for management use.

For the South Atlantic species; under Atlantic croaker we will initiate the development of the 2016 benchmark stock assessment. We will complete the annual update of the traffic light approach to determine if management changes are necessary. For black drum we will review the 2014 benchmark assessment and consider a management response if necessary.

For red drum we will complete the 2015 benchmark assessment and consider a management response to the assessment findings. For Spanish mackerel we will evaluate the results of the pilot program for seasonal exemptions in the commercial pound net fishery and consider management changes to the management program if necessary.

For spot we will also initiate the development of a 2016 benchmark assessment as well as complete the annual update of the traffic light to determine if any management changes are necessary. For summer flounder, scup and black sea bass we will continue the development of the Comprehensive Summer Flounder Amendment considering changes to both the commercial and recreational management in coordination with the Mid-Atlantic Fishery Management Council and complete a management response to the Summer Flounder Recreational Working Group.

Also under this comprehensive amendment we will consider the technical committee's recommendation on the climate change impacts for species' distribution and allocation. This afternoon the Summer Flounder Board also initiated an addendum to consider changes for the 2015 recreational fishery, which we will add into this task list.

For scup we will collaborate with the Northeast Fisheries Science Center to complete the 2015 benchmark stock assessment and consider a management response to the assessment findings. For black sea bass we will finalize regulations for the 2015 recreational fishery, consider initiation of an addendum for recreational management measures for 2016 and later; as well as work in collaboration with the Mid-Atlantic Council and the Center to continue work on the 2016 benchmark stock assessment. We will consider an assessment update in 2015 if any new data become available.

For tautog we will review the results of the 2014 benchmark stock assessment and consider a management response to the assessment findings. For weakfish we will complete the 2015 benchmark assessment and update the 2015 stock status indicators to evaluate any changes in the population.

For winter flounder we will monitor the Northeast Fisheries Science Center stock assessment activities for the inshore winter flounder stocks and set specifications for 2016 to 2018. The Winter Flounder Board also asked that we work more collaboratively with the New England Fishery Management Council; and we will add that task into the action plan as well.

Under Task 1.24 we will work with NOAA Headquarters and the regional leadership to improve the alignment of state and federal budgets. We will finalize the reconfiguration of a combined AP for Summer Flounder, Scup and Black Sea Bass and improve the AP input process with the Mid-Atlantic Council. I will pass the baton over to Pat for Goal 2. Are there are questions first?

MR. ROBERT BALLOU: Mr. Chairman, at the end of yesterday's Eel Board Meeting, there was a brief discussion on turbine mortality and I believe a commitment from the board to sort of ramp up our efforts to monitor that situation. I know it is already embedded in a previous addendum, but I think the board fully recognizes the importance of that issue; and I

wonder if it should be elevated to an action item. Thank you.

CHAIRMAN DANIEL: We can do that unless there is a problem from the rest of the commission. Seeing none; we will include that. Adam.

MR. ADAM NOWALSKY: The Summer Flounder Board has had discussion on a couple of consecutive meetings now about the development of sex-based modeling; and I was wondering if we could add an action that might read "work in collaboration with NMFS Northeast Fisheries Science Center and industry on sex-based modeling development."

Specifically, there has been a lot of discussion earlier this year about possibly hosting a half or one-day workshop in connection with a monitor or technical committee meeting week that I know Toni was aware of. We were looking for a place to add that somewhere; and this might be the right time for that.

EXECUTIVE DIRECTOR BEAL: Adam, you're right, we have talked about that a number of times at the Summer Flounder Board. I think it is fine to add it as a task in here; but it is probably with the understanding that it may not be completed – you know, the sex-based modeling may not be completed in 2015 and that would trigger a peer review and a number of other things. I think we can capture so that, as you said, working with industry and the science center folks and the technical committee moving forward on exploring that and determining the viability of that approach and that type of thing. Is that adequate?

MR. NOWALSKY: That would be wonderful; thank you very much.

MR. ROB O'REILLY: Toni, I just didn't hear exactly what you said about linking the Chesapeake Bay reference points and the amendment, whether it was "or" or "for" or how that was worded. I couldn't quite figure that out for striped bass.

MS. KERNS: Rob, we here in the task to either do Chesapeake Bay reference points or to look at a new assessment so it is one or the other and then a management response to whichever approach we move forward with.

MR. O'REILLY: When would be the right time to talk about that because an amendment is a few years away; and everything I'm hearing about reference points, it is a lot closer than a few years away. Maybe they shouldn't be an "or" and should be an "and", but I'm not sure when the right time to talk about that – is that now or is that tomorrow; how does that go?

MS. KERNS: I think the board can give us direction on whether or not the board wants to continue the development of a Chesapeake Bay reference point or if they want an updated stock assessment. The board can give that direction tomorrow. In terms of the management response to the findings of whichever one of those things that we do; that can be done through an addendum, so that would be immediately after we had the report from the technical committee. I also failed to say that we would also update all the data needs for these actions.

MR. WILLIAM A. ADLER: On Page 9, I would just like a clarification on Task 1.4.3; continue to focus board attention on developing clear problem statements prior to initiate – is there a problem with what we already do or what do you mean by "developing clear"; is there something else that needs to be done on that?

MS. KERNS: I think we want to just keep going in the direction that we're going so that we have clear statement of the problem as we go through addenda and amendment processes so

that public understands why we are considering action.

MR. ADLER: Are we not doing that now or what?

MS. KERNS: We are doing that now and that is why it says to continue to focus your attention those clear statements of the problem; so to keep doing what we are doing.

CHAIRMAN DANIEL: Any other questions for Toni? Seeing none, I have just one comment that I don't want anything added to the task; but under weakfish I've had some discussions with some of my southern colleagues. I think when the stock assessment is done; anything we can do to try to look at this northern and south of Hatteras issue that appears to be occurring might give us some good insight into what is going on with that population.

There clearly seems to be a big difference between south of Hatteras and north of Hatteras in terms of weakfish abundance. I'd like for the technical committee to take that into consideration when they're reviewing all the different indices and the data; without objection. Great; thank you. Pat, are you ready?

MR. PATRICK A. CAMPFIELD: Goal 2 covers the fisheries research surveys and stock assessment modeling activities of the commission. In 2015 we will initiate a spot benchmark assessment. We will also complete assessments for American lobster, weakfish, scup, red drum and bluefish as well as an operational assessment for sea herring and the peer reviews of those assessments.

Under 2.1.10 the Management and Science Committee will develop a commission policy regarding risk and uncertainty and provide that to the Policy Board for consideration. The commission has increasingly become engaged with the National Fish and Wildlife Foundation, including recently participating in proposal reviews for both their fisheries' innovation and river herring initiative; so we will continue to do that in 2015.

Under the NEAMAP Program there has been a big change in that the commission is receiving a grant from NOAA starting in 2015 essentially to administer the funding for the Mid-Atlantic Nearshore Trawl Survey. NEAMAP will also conduct a couple of technical workshops regarding catch processing and trawl technology with the point of comparing methods and developing consistency among all state NEAMAP, SEAMAP and federal trawl surveys. NEAMAP will also continue to seek opportunities and resources to help supplement the horseshoe crab data collection for the Delaware Bay population.

Moving on to SEAMAP, it is time for the SEAMAP Program to develop their next five-year plan. We will work on that next year for the 2016 to 2020 time period. Under fish-tagging activities and programs, we will develop a long-term strategy for collecting striped bass tagging data, including funding, administration and at-sea support.

That refers both to the cooperative tagging cruise and the hook-and-line sampling. Under fish-aging activities, we are proposing two workshops for 2015; the first focusing on developing consistent methods for aging menhaden and the second to conduct an annual aging quality-control workshop among the different state and university aging labs.

Finally, collaborate with the Gulf States Commission on developing an aging manual so that for the species on both coasts we're using, again, consistent aging methods. Under socioeconomic activities, that committee will dig into developing a socioeconomic analysis for menhaden next year.

Under fish passage, a couple of new activities regarding implementation of a fish passage prioritization protocol that the committee has recently developed, as well as developing guidance for state staff on the FERC relicensing process and how to engage at the state level there.

Finally, under the Multispecies and Ecosystem-Based Management Area, the Ecological Reference Points Working Group will develop and present options for board consideration on ecosystem-based reference points that account for predation. Those of the highlights and new items for 2015. I'm happy to take any questions.

MR. ADLER: Back on stock assessment things; do we have anywhere the Cancer Crab Issue, because when we came up public hearing a lot of people said, well, how can you do anything if you haven't got some stock assessment. Do we have any plans to maybe try to put something together on a stock assessment for Cancer Crab?

MS. KERNS: Bill, when we first initiated the FMP, we said that we would craft an FMP and then follow up with an assessment. We have not put it on the assessment schedule since we haven't approved an FMP yet. That was what the board had discussed is the order that it would go in.

MR. ADLER: Okay, so it would happen after the FMP?

MS. KERNS: Correct.

MR. CAMPFIELD: I would also add that at least my understanding from the group that has been working on the Cancer Crabs to date; that there is some concern that they don't have a whole lot of information to go on to do a stock assessment, giving sort of the mixed identification in the data as well as the overall coverage of the data. That is something that we'd have to ask our technical committee to dig into.

MR. DAVID V. BORDEN: Just to follow up on Bill's point, as I think everybody knows, there has been an S-K solicitation in consultation with the National Marine Fisheries Atlantic Offshore and the Division are going to sponsor a proposal to look at sexual maturity. If it got funded, it would get at a lot of the uncertainty that the commission is trying to deal with. Thank you.

MR. O'REILLY: Pat, on Task 2.2.8, develop long-term strategy for collecting striped bass tagging data, what is that about a little bit more; what are the needs, what are the gaps in information? What do you foresee is that really encompassing?

MR. CAMPFIELD: At a minimum it will pertain to looking at the cooperative winter tagging cruise, which we've done, of course, for a number of years, as well as the more recent hook-and-line sampling and tagging in the winter; so comparisons of those methods to see if the hook and line is working.

But as we've talked about in the context of the striped bass assessment and maybe moving towards a different framework, I think it is also open for discussion most likely at the Striped Bass Technical Committee on the data needs and any additional monitoring or changes in state monitoring that would support more of a spatial model to support spatial management.

CHAIRMAN DANIEL: Anything else for Pat? Seeing nothing; we will go back to Toni.

MS. KERNS: Goal 3 is our law enforcement goal. It is to promote compliance with fishery management plans and to ensure sustainable use of Atlantic Coast Fisheries. Most of the tasks under here are similar tasks from last year; and we will continue on with our Law

Enforcement Program to provide feedback to the management boards on new plans and current plans and how well we're doing.

The one new task that we do have is to assist the Mid-Atlantic Fishery Management Council on identifying strategies to address violations and illegal harvest involved in the research set-aside program as the Mid-Atlantic Council does an overview of that program throughout the course of this year. Any questions on law enforcement?

MR. ADLER: Page 17, just a question; on Task 3.3.4, what is the Conservation Law Enforcement Chiefs Association; what is it?

EXECUTIVE DIRECTOR BEAL: Both of those groups, the Conservation Law Enforcement Chiefs and the Association of Fish and Wildlife Agencies; the Law Enforcement Chiefs are kind of what they sound like, organizations of law enforcement leadership and they get together to collectively discuss enforcement issues up and down the coast and really throughout the nation. We're going to monitor their activities and see if there is anything that spills over to our Law Enforcement Committee that may be worth communicating back and forth on/

MS. KERNS: In addition, Bill, there are members of our Law Enforcement Committee who serve on those committees and so the overlap is easy to do. Goal 4 is our habitat goal. It is to protect and enhance fish habitat and ecosystem health through the partnership and education. Under 4.1.1 is we will be finalizing the Sciaenid Habitat Source Document, working closing with the technical committees and other species' experts and staff to do so.

We will be developing the next installment of the Habitat Management Series, which is climate change impacts on fish habitats for the Policy Board review and acceptance, as well as identify an additional topic for the next series. We will also support the completion of the ACFHP Science and Data Projects. We will be acquiring and analyzing fish population, habitat and human impacts data. We will complete the Winter Flounder GIS Habitat Assessment and initiate a River Herring Habitat Assessment. We will make all these results available to the different partners of ACFHP for the Strategic Coastal Habitat Conservation. I did forget to mention that all of the ACFHP support falls under this Goal 4 that we will continue to do. Any questions?

CHAIRMAN DANIEL: Any questions on Habitat? Seeing none; we will move to stakeholder and public support. I'm assuming Tina will do that.

MS. TINA L. BERGER: You will see the majority of tasks are continuing from last year with a couple of additions. Task 5.1.9; we will start posting via You Tube and on our website presentations on benchmark stock assessments and repackage what is being presented to the board for greater stakeholder participation and involvement in that process. We also will be developing a guide to basically fisheries management agencies and entities along the Atlantic Coast to better differentiate our different authorities and responsibilities. That is for new task for Goal 5.

CHAIRMAN DANIEL: Questions for Tina? If not, Bob.

EXECUTIVE DIRECTOR BEAL: Goal 6 is our congressional outreach and legislative initiatives. Most of this goal is ongoing activities. As Louis said, you can't rest on your laurels because congress changes and the staff changes. We will keep working with those offices and improving our relationships there.

There is one task that is in bold; and that is to work with the other fisheries commissions around the country, primarily Gulf and Pacific, to speak collectively on behalf of the coastal states around the country. It has been a very

effective way of meeting with congressional offices and NOAA leadership and we're going to continue to do that.

Within this is also, as the state directors know, the San Diego meeting that occurred at the beginning of September, which I think was a productive meeting, and NOAA Fisheries agreed to allow us to coordinate with them and provide state perspectives on budget priorities for their budget cycle; and we're actually have the first meeting with the NOAA Leadership Council – the three commissions will be meeting with them next Wednesday afternoon. I think that is progress.

We have never been able to meet with that group as a collective whole with the NOAA leadership. Getting time in front of those folks is important. We're going to continue to do that and we will keep working in the state priorities any chance we get into the federal budgeting process either on Capitol Hill or through the NOAA leadership. That is Goal 6. Any questions?

MR. DENNIS ABBOTT: Not a question but a comment. Sunday night we met with folks from the Congressional Sportsmen's Foundation and National Assembly of Sportsmen's Caucus, and through that we've made arrangements for Deke to get in touch with their coordinator in the Washington area where they have over 200 congressmen and 50 senators in their arena. Maybe they can provide some help working on Magnuson-Stevens and other things. There may be some mutual benefit there for you.

CHAIRMAN DANIEL: All right, I think Laura is going to take us home.

MS. LAURA C. LEACH: Before I go into the new tasks that are in Goal 7, I wanted to note that we have paid off the entire floating portion of the loan and all we owe is less than a million dollars. That will be paid off in six years and we will own our office space outright. That is the first bit of good news. I will quickly go through the few new tasks that are in Goal 7. One of them is in 7.1, which is provide administrative support to the MRIP Dockside Service APAIS, including human resources and meetings' management, grant and financial monitoring and office space. The second one is providing administrative support to the NMFS At-Sea Observer Program.

7.2; we're working on developing a link between the commission's contact database and website to provide up-to-date committee lists. ACCSP is doing the majority of the work on that. We're going to continue to live stream commission meetings and seek improvement to the process, although it has gone really well so far.

7.4; we're going to be revising "Forging Knowledge Into Change", which is a publication that we distributed 25 years ago at our – almost 25 years ago, our 50th Annual Meeting; so we will be updating that and revising that for distribution at the commission's 75th Annual Meeting, which is in 2016. Then 7.5.3 is ensuring the annual submission of the financial disclosure and conflict of interest forms by the LGA commissioners and their proxies. Are there any questions?

MR. ABBOTT: I do have a question. Laura, could you just refresh myself and the other folks how many years has it been that you've been in the new office?

MS. LEACH: We just had our fourth year.

MR. ABBOTT: Fourth year; and in that time how much have we paid down? If I remember, the price was around $4 million, was it, and we're down to a million now.

MS. LEACH: Yes.

MR. G. RITCHIE WHITE: It is probably premature, but in the next few years we probably need to start planning where the available money will be going that won't be going to the payments. It sounds like a substantial amount that could be going to stock assessments.

MS. LEACH: We're paying $2,000 a month right now; and that is our mortgage now.

MR. WHITE: So in six years, that is a lot of money.

MS. LEACH: Which I just point out that were – four years ago, before we moved, we were paying $34,000 a month rent and that was going to increase within the lease.

CHAIRMAN DANIEL: That's crazy money. Bob.

MR. BALLOU: Mr. Chairman, this is a little incongruous I think because it might have related better to Tina's portion. I just want to note that I was struck by the fact that the draft addendum for striped bass wasn't readily available on the website unless I missed it. Before the meeting announcement came out, I couldn't get to the addendum in an easy way.

It may have been just me, but it just struck me that when we have a pending action as big as that, but frankly would pertain to any major action pending, it seems to me that it should be readily accessible to the public on the website. We can have a sidebar chat after this because maybe I missed it; but I just couldn't fine it. I'm wondering if we might want to do a better job making those pending actions readily available to the public to the website. It is just a comment; and again I don't want to take up time now unless Tina has a response. Thank you.

MS. BERGER: Generally the pending actions are placed in a number of places under public input, on the front page of the website. I remove them once the public comment period is over to avoid confusion and to prevent the fact that folks may think we're still accepting public comment on it. It was included in the board materials for that; but staff can talk about a better way of doing that to make sure that folks don't need to search for it.

MR. BALLOU: Thank you; and that does answer the question. I think that is what happened is after public comment period ended, it disappeared. Of course, there was no lack of continuing public interest in the issue, so I just think we might want to try to find a happy medium there.

MR. MITCH FEIGENBAUM: Mr. Chairman, I just want to point out that I want to compliment the staff and the commission for live streaming meetings. I'm getting feedback from a lot of folks that they're actually going to the web and participating or listening in on our meetings. Whoever is doing all the good work to make that happen should know that it is not for nothing; that it really is reaching people. Thank you.

MR. THOMAS FOTE: I guess you're tracking the numbers of people that come on and can we get a report one day of how many people are listening in on our sessions?

CHAIRMAN DANIEL: He was asking if we could get the number of the people that are actually listening in to the live streaming. Tina says we can. **Anything else for any of the staff on the 2015 Action Plan? If not, I would accept a motion to accept.**

MR. BORDEN: So moved.

CHAIRMAN DANIEL: Motion by David Borden to accept the 2015 Action Plan; seconded by Mitch Feigenbaum. Any discussion on the motion? Move to accept the 2015 Action Plan. Motion

by Dave Borden and seconded by Mitch Feigenbaum. Is there any opposition to the motion? **Seeing none; the motion carries.** Bob.

2014 ACTION PLAN UPDATE

EXECUTIVE DIRECTOR BEAL: The other item that was on the agenda was the 2014 Action Plan Progress Update, which is essentially briefing the commissioners on where we stand with relation to this year's action plan. There are a number of things that were delayed for various reasons. I can quickly go through those.

There was a requirement for an addendum for Lobster Conservation Management Areas 4, 5 and 6. That was worked on at this morning's Lobster Board meeting in achieving that 10 percent reduction goal. Okay, I'm sorry, that is to right size the fishery to the availability of the resource. That hasn't been done, but the asked the LCMTs to work on it at the August meeting.

The Lobster Assessment was delayed due to data issues and that will finalized in early 2015. The Bluefish Assessment was pushed back due to different priorities within the SAW/SARC schedule, and that will be in 2015 as well. The Scup Assessment was changed from a benchmark assessment to what is called a rumble strip, which is just an abbreviated update of the stock assessment.

The Sturgeon Assessment was delayed due to the complexity of that assessment; and that is going to be finished in 2017 rather than in 2015. Risk and uncertainty, as Pat mentioned, those are being tackled in this year's action plan. The committee was focused on climate change issues and the impacts on fisheries' distribution.

The Intermediate and Advanced Stock Assessment Training Workshops; all of our assessment folks were cranking out assessments fulltime, basically, so we didn't have time to do the training workshops this year. They are in the action plan for next year.

The East Coast Aquarium and Fishery Science 101; these are two outreach projects that we didn't get to just due to lack of time. They have been rolled over into the action plan for this year.

The Annual Meeting of the Atlantic Coast Fisheries Communication Group, which is sort of the outreach coordinators for all the fishery agencies up and down the coast, that meeting wasn't held, but Tina participated with a number of those folks in the South Atlantic Council Communication Project on Science and Graphics.

There was a task to work with the executive committee to determine the appropriate way to orient new commissioners. We didn't do that. I think we still need to do that. New commissioners get a variety of communications from us and a lot of materials, but it is probably worthwhile to sit down with new commissioners, spend some time with them, have them understand or help them understand what each of the different departments do and how the process works.

We're going to come up with a plan to do that. It is tricky. We don't want to use too much of the volunteer time from our new commissioners, but I think it is probably worthwhile to spend some time with new commissions so they can get up to speed a little bit more quickly. There is a lot of history and a lot of baggage with some of the things that we do.

We're also working with the commission's attorney on Freedom of Information Act requests. We're not a federal agency so FOIA doesn't directly apply to us, but we have been very open with providing any information that anyone asks for at the commission unless it involves confidential data.

If anyone has asked for communications or letters or background on any issue at the commission, we're more than happy to provide it. The only thing we can't violate is the confidentiality laws on data. Those are the things that weren't done. There is a list of things that were done above and beyond the action plan; things pop up during the year.

We contributed to a number of other science projects and the new display that you may have seen out in the hallway and a number of other things that we've done to streamline our database issues and developing procedures within the office for finance and administration. That is a quick summary of where we stand relative to the things we intended to do this year. I'm happy to answer any questions if you guys are concerned about delays of anything else.

MR. NOWALSKY: Would there be an opportunity for the stock assessment training and fisheries science training to work with MREP and the Gulf of Maine Research Institute now that they're working with the Mid-Atlantic Council here in the Mid-Atlantic Region?

EXECUTIVE DIRECTOR BEAL: Is that in order to provide training at the MREP sessions or are you looking for something different?

MR. NOWALSKY: Well, I think that when they conduct their training sessions throughout the year or potentially the opportunity for them to have more, then send commissioners as opposed to – I see with the item for intermediate advanced stock assessment training – assessment scientists working fulltime on stock assessments.

I think we want them working fulltime on those assessments, but through the MREP program, it would raise the question of do we need the stock assessment scientists to – do we have to pull them away if there's already a training mechanism in place to get the same information?

EXECUTIVE DIRECTOR BEAL: Well, this training, Adam, was actually for state assessment biologists to meet with our staff and get trained on new assessment methodology, so it's pulling along all the state biologists and some federal biologists to teach them new assessment techniques. The training here wasn't designed for commissioners. It was more for biologists at the state level to provide them intermediate and advanced assessment training.

MR. NOWALSKY: Okay, and again 2.5.1 said conduct training works out for commissioners, so that's what I would think the opportunity would be there for. It is something to look at moving forward. If that is the intent for more commissioners; if that interest level is there, I think that might be a place to take advantage of it.

OTHER BUSINESS

CHAIRMAN DANIEL: Any other comments on the 2014 update? If not, we will move into other business. Emerson?

MR. HASBROUCK: As many of you know, the Mid-Atlantic Fishery Management Council suspended the Mid-Atlantic Research Set-Aside Program for at least a year in order to address concerns that the council members and council staff raised relative to that program. That was just recently done by the council.

That effectively took a little bit more than a million dollars a year in funding available for fisheries research, most of it being done cooperatively with the fishing industry. It's a significant amount of money that has been taken off the table for fisheries research to help answer a lot of the questions that come up in our discussions about managing the various species that we manage.

That money isn't going to be replaced by some other entity. That program is funded through 3 percent of the overall quota for several different species, summer flounder, scup, sea bass, bluefish, longfin squid, mackerel, butterfish and probably something that I have forgotten to list. That comes out of the quota that this commission approves every year.

I think it's in the interest of the commission to weigh in on the Research Set-Aside Program and perhaps help the council develop some new procedures and protocols to help get the RSA Program back on track, so we can utilize that million dollars a year in funding. When you're ready, Mr. Chairman, I've got a motion I'd like to offer. Thank you.

CHAIRMAN DANIEL: Okay, questions for Emerson on his – Dave?

MR. BORDEN: Not a question, but I'd like to just go on the record as totally supporting what he's suggesting. Everyone in the room basically has to commit annually to placing a tax on your constituents in order to support this; and if that is the case, I think that it's an appropriate question and proposal for the commission to advance that we should have some say in how that program gets structured; not only that, what priorities get formulated through it and which projects get formulated. My feeling is we have to take on more of a prominent role than we have in the past.

MR. FOTE: In the last couple of years, I had voted against RSAs mainly because it was being used for NEAMAP, and this is the first year it would not have been used for NEAMAP, and we could have actually done some research. I always had some concerns that a lot of this money was being raised from the sale of RSAs on black sea bass and summer flounder because that is where they get the most bang for the dollar and the biggest part of the quota; and yet, very little in comparison to that, money was being spent on two species, and a lot of it was being redirected to other places.

We first got into this program with the idea of industry funding research and the fisheries they were basically taking the quota out of, and we had gotten away from that. So, I agree with Dave and Emerson that if we're going to get involved in this again, we know how to make sure where the money is being spent. It should be on the fisheries where the money is coming from or where the quota is coming from.

We're taxing and that 3 percent quota can mean a lot days fishing in the recreational community, and it also means a lot more money in the commercial communities. In the beginning, we were not against having to be taxed like that, but we wanted to be sure it was going in the right place. That's what we need to ensure, and we need to be a bigger part of it.

CHAIRMAN DANIEL: Let's hear your motion, Emerson, and we can have further discussion.

MR. HASBROUCK: Okay, it's a draft, and we can modify it if need be**. I'd like to move that commission request that the Mid-Atlantic Fishery Management Council put together a special committee to address concerns over the RSA Program; for that committee to be comprised of members of both the commission and the council; and further that this committee and the council and the commission work in a speedy manner to reinstate the RSA Program as soon as possible.**

CHAIRMAN DANIEL: Can you provide that to staff so they can get it up on the board? Dave, while we're getting that up on the board.

MR. SIMPSON: Yes, getting a second would probably be appropriate, and then I will comment. Well, in the interest of time, we were talking about it anyway. I need my memory refreshed. Every August we meet

jointly with Mid-Atlantic Council for fluke, scup and sea bass. We don't vote jointly on everything, but I thought we did. The Fluke, Scup, Sea Bass Board voted on RSA, so the commission does have a voice. I believe that's right, and Bob seems to be nodding.

EXECUTIVE DIRECTOR BEAL: Yes, the commission has voted jointly with the Mid-Atlantic Council on Research Set-Aside; and our plan does not have RSA included in the commission's FMP, but the board did vote on the Research Set-Aside levels so that we ended up with consistent quotas with the Mid-Atlantic Council.

If the Mid-Atlantic sets aside 3 percent and the board did not mirror that activity, then we would have the quota as 3 percent higher than the Mid and all the problems when we have different quotas. The commission's involvement has been making sure that the quotas stay identical and we don't end up with problems there. You're right, it has been a joint motion by the board and the council in the past.

MR. SIMPSON: Louis, I would say we're already fully engaged at least for those three species, and we don't have really much of anything to do with mackerel and squid. I'm not sure this is really necessary. We already have what is being asked for. If I could get a reminder; I think it took us a few years to get zeroing out RSA because of concerns for NEAMAP going unfunded, if that money were not available. Now NOAA has picked up the cost of that. Do you have a ballpark on what NEAMAP cost and what NOAA is picking up; just a ballpark?

EXECUTIVE DIRECTOR BEAL: It's about a million dollars; a little over that, 1.1, so it's a big chunk of change.

MR. SIMPSON: So, the federal government has really stepped up and virtually fully replaced the money that was lost from fluke, scup and sea bass and RSA; so that's a big plus for us that an important survey is on a solid funding basis now.

CHAIRMAN DANIEL: I have got a motion. Is there a second to the motion? Second from Dave Bordon. Dave?

MR. BORDEN: I would just suggest to Emerson I think it would be clearer if – in the second line, we've got "special" – change that to "joint committee". In other words, the intent is to have both organizations contribute members to it. To follow up on Bob Beal's comment about the NEAMAP Project, I think it's important for everybody to just reflect on it.

During the last couple of years, there are only two projects that got funded with RSA funding, the Black Sea Bass Study and the NEAMAP Project. They used up the full allocations that were available. So, by having the National Marine Fisheries Service now fund NEAMAP, it really frees up the opportunity for the commission and the Mid-Atlantic Council to do about five $200,000 projects, which would be a significant addition.

As we're going through priority-setting and action-planned discussions, and you think about all the things we need to tune up, fine tune and get a little bit better scientific information, this is a real opportunity to advance our understanding on some of these problems that have kind of dogged us for a number of years. I think this is a real opportunity for the commission to take a step forward.

EXECUTIVE DIRECTOR BEAL: A couple of quick comments, not in favor or in opposition to the motion, but the Mid-Atlantic Council already has a Research Set-Aside Committee that's going to dig into this. The way the motion is worded now is it requests the Mid-Atlantic Council put together a joint committee; so the

way it's worded now, I read it as the Mid decides individually who is on this committee.

I think you guys may want more say in the joint membership of that committee rather than having the Mid completely form it. There are a number of state representatives on the RSA Committee already at the Mid-Atlantic Council. It doesn't include the southern New England states that participated quite a bit in the Research Set-Aside Program, so we may want to tweak the wording there a little bit.

MR. DIODATI: I just have a question for clarification. I guess I'm not sure other than the program is, at least for the time being, disbanded; what is the intent of moving forward regardless of this? What is the current intent of the Mid regarding the RSA Program?

EXECUTIVE DIRECTOR BEAL: When they zeroed out the RSA last year, there was a lot of discussion on what it means to move forward; and it appears or my recollection is that they want to move forward with looking at all the details of the RSA Program that led to, frankly, a lot of poaching, a lot of illegal activity.

They want to look at that and try to determine if there are ways to minimize that opportunity. A number of folks brought up the issues such as the auction and should that continue? They wanted, really, to open up the whole program and look at it; and the law enforcement folks needed to be intimately involved with that as it moved forward. The poaching issues or one of those significant concerns was what led them to zero out the program this year.

MR. DIODATI: Yes, I understand that part, so they're currently in a review process to take a little hiatus and they are going to review. I think one of the concerns that we've expressed, at least from Massachusetts, is all of that, what you just said, plus there was never any recognition how the RSA Set-Aside would be intertwined with state fisheries management programs.

The administration of those fisheries particularly by states that had nothing to do with the RSA but were expected to incorporate a new type of activity within their states; and so that was problematic. Moving forward, I think this commission certainly needs to have an active role. I'm not sure if this motion is what gets us there, but I wouldn't be comfortable for that program to come back on line without a very active role by this commission.

MR. DOUGLAS E. GROUT: Just a suggestion on the rewording that Bob was mentioning; that instead of the commission requesting; the commission work together with the Mid-Atlantic Fisheries Management Council to put – does that work for you, Emerson?

MR. HASBROUCK: Yes, it does.

CHAIRMAN DANIEL: Emerson and David are good with those changes. Okay, I've got Emerson.

MR. HASBROUCK: Yes, I'm open to other suggestions as well to tweak this motion, but my intent here is to have the commission actively involved in restructuring The RSA Program. Yes, we do vote during the specifications to allocate that 3 percent, but right now this whole process is with the Mid-Atlantic Council.

Yes, there is an RSA Committee within the Council, and, yes, there are some state representatives on that committee, but I would like to formalize the process more so that the commission has a formal role to play in the reformatting and the revitalization of the RSA Program. Thank you.

MR. JAMES J. GILMORE, JR.: Some of you are probably aware of this, but the main reason

there was a hiatus on the RSA Program was because of the illegal activity going on. The Department of Justice has aggressively pursuing that; and they had several cases; and last week there was a sentencing of one of the dealers, and he is going to spend four months in prison and pay in excess of a half million dollars in penalties.

So, the deterrent factor in terms of what was going on with this program I think is being well handled by that, so my concerns are a little bit – I was on the side of should we consider doing this; but I think from the fishermen cheating, in the future they are going to take a second thought about doing that. Thank you.

CHAIRMAN DANIEL: I would. Tom Fote.

MR. FOTE: I also think there was a lot of expense by the states to monitor these programs; and that was never addressed in the RSA Program. That's one of the reasons New Jersey always had a difficult time with this, because we didn't have enough funds to do what we were doing to basically start enforcing this. They were demanding it because of the way the program started moving in a different direction than it originally started.

Unless those are really addressed, I don't know if I can support going back to the system. The way it originally was put forward, the fish were sold and the money went for research. That was it, but when we started basically saying how auctions and quotas, that you could do this with the recreational sector and you could do this with the commercial sector, then it got more complicated and more complicated to enforce.

What I would like to see is when the Mid-Atlantic Council gets finished with their review process and we are part of that, and when it is brought back to us and we have to have a joint – before the commission signs away 3 percent of the quota, it shouldn't be an automatic yes, because we have to do this because the quotas would be different is that we should be a real partner in how it's done, and the states should all be in agreement on how it's done at least by a vote; a majority of the states.

I think there is a little more process I'm looking for than is in this motion. I realize we are giving away 3 percent of the quota on a lot of species, and yet we have very little to do with it at the commission. We shouldn't just be rubber stamping with the Mid-Atlantic, because that has gotten us in a lot of trouble over the years. I'm accepting quotas that I don't think are right, because one of the bodies over there does things differently than our monitoring committee used to do. I have more concerns than I had when I originally started this discussion.

MR. BORDEN: I'll just make this very quick, Mr. Chairman. To Paul's point, I think his point is a good point, and I think that's exactly the reason the commission needs to be involved in the discussion.

MR. BALLOU: I'd just like to suggest a perfection to the motion, to add "to improve and reinstate the RSA Program". I think that speaks to the spirit of what we're looking to do here. Thank you.

CHAIRMAN DANIEL: Without objection from Emerson or Dave?

MR. HASBROUCK: That's fine with me.

MR. DIODATI: Well, Bob Ballou may have just addressed my concern. I was concerned with the last part of the motion given that we're looking at convictions that have resulted in significant jail time, very substantial fines, a burden on states to participate and monitor this program. I wasn't comfortable saying that the commission wanted to work in a speedy

manner to reinstate the program that caused all that.

I wanted to either eliminate that last fragment of the motion or perhaps this helps. I wasn't comfortable voting for it the way it was. I'd prefer that last part of it be eliminated and just say that this commission recommends working with the Mid and reviewing the RSA. If the findings of that review warrant reinstating it, then that's what will happen; but it may be that review finds that the program is not doable for a number of reasons. It's very difficult to manage.

CHAIRMAN DANIEL: I see exactly what you're saying there. All right, Rob, can you fix it?

MR. O'REILLY: No, I was going to say the intent I support, but it has turned into some sort of awkward motion as far as I can see. I can't see the council starting up a joint committee. They already have an RSA Committee, as Bob mentioned. I'm on that committee. There may be some others who are as well.

I think the idea is to just have the commission on that RSA Committee; and then what Paul has just indicated really should be the charge to work to improve it. When it gets reinstated, that is subject to a lot of the comments around the board; but mainly to make sure the commission has some investment in that committee that already exists.

MR. HASBROUCK: Mr. Chairman, listening to the discussion, my intent here having the word "speedy" in there was to keep the process from languishing. I didn't want it to just be put on the back burner with the council saying they didn't have the time to get to it, and we go through another couple of years before anything happens with the RSA Program.

I'd be willing to take out "speedy" and maybe put in "expeditious manner to improve and reinstate the RSA Program, if possible". I don't know if that helps to address some of the concerns we're hearing. Although the council did suspend the program, they didn't do away with it, and their intent was to bring it back. Again, I just don't want to bring it back ten years from now, perhaps, when it is sitting out on the back burner. Anyhow, I don't know if that change works. I don't know if Dave would accept those as the second.

MR. WHITE: Once this committee completed its work, what is the approval process that would take place for it to be reinstated? Does the Mid-Atlantic have the authority just to do it or does it have to be approved by the Mid-Atlantic and the commission? What is the next step?

EXECUTIVE DIRECTOR BEAL: As I mentioned earlier, Ritchie, the ASMFC does not have research set-aside in any of its FMPs. If the commission wanted to memorialize that, it would have to be done through maybe even an amendment process since it is not part of our adaptive management. The Mid-Atlantic Council does have provisions for research set-aside in their FMP, but it would probably take at a minimum a framework to capture some of the changes; and it require even an amendment to their FMP to capture the changes for the administration of the research set-aside. Depending on the magnitude of the changes probably would determine what course of action needs to be taken to sort of memorialize those changes and have them in control the way the program is administered in the future.

MR. WHITE: So basically we would be in an advisory capacity?

EXECUTIVE DIRECTOR BEAL: Well, I think a number of people around the table would like to have the commission much more involved and not just be advisors to the RSA and have sort of equal footing in the research set-aside program with the Mid-Atlantic Council. That

would take a modification to our FMP at a minimum.

CHAIRMAN DANIEL: But even if we were members of the RSA Committee, it would still be up to the full council to make the final charge. I guess the concern that I have is that the first part of the motion I don't believe is practicable. I think what you really want is a number of people to be given seats on the RSA Committee. I don't think we would want to form a separate committee.

They've got a committee; so I'm trying to think as the council chairman gets the letter that we would like them to form a new committee – a joint committee – as opposed they might view a request from us to have, say, four members from the ASMFC be placed on their RSA Committee to work together to improve the RSA Program and reinstate, if appropriate.

I think that addresses at least some of the concerns that I've heard around the table in terms of what we could actually accomplish, which I know that is what you're trying to do is accomplish this. There are two different approaches, either request seats or their existing RSA Committee or the motion as read. It is up to you. Paul.

MR. DIODATI: I agree with you, Louis. Rob, I think you said that you're on the current committee and you're a member of both the council and the commission. I guess the problem is where there are members of this group, such as myself, that are not members of the Mid and have a strong interest in not only the development of an RSA Program but how it affects us in terms of these intersecting fisheries and how we manage them. I think if you can remodel this a little bit so that you're not creating a new committee and you're really just seeking membership for non-council members that are members of this commission to join it. That would certainly satisfy me; so that would be helpful.

CHAIRMAN DANIEL: I'm perfectly happy to try to wordsmith the current motion if is all right with Emerson and Dave or we can vote this up or down; and if it is voted down, we can try again; but I don't think it is going to pass with the way it is written right now. I may be wrong.

MR. HASBROUCK: Mr. Chairman, as I said earlier, I'm open to wordsmithing to make it work. My intent here by saying a joint committee was to be either a new committee or just an expanded RSA Committee. I would be happy to let the executive director of both of these institutions, the commission and council, work out the details of how that has to get done. That is fine with me.

CHAIRMAN DANIEL: If everybody agrees with that concept, I think it might get us along a little faster. Tina passed a note "to ensure adequate ASMFC state representation on the RSA Committee". I think that is sort of the lead-in statement, and then we would request membership; and if we can allow Bob to work with Chris Moore to get a sense of how best to do it, then I think we might move a little quicker if everybody is in agreement to handling it that way. Is there any objection to handling it that way? Brandon.

MR. BRANDON MUFFLEY: Mr. Chairman, just for clarification, there is a standing RSA Committee on the council. Was a new committee formed to evaluate the RSA Program or was the entire RSA Committee charged at looking at that? I think that might help. If it is to try to get seats on a standing RSA Committee within the council versus a committee that was charged to evaluate the program, I don't know if there is a difference or not, but it might help.

MR. O'REILLY: My understanding is it is the same committee. Rich Seagraves is the staff

person for that committee. When there was a suspension, it wasn't a unanimous situation. I would say probably 40 percent were in the minority to keep the RSA going because there are projects that are held to be pretty important; so you have to keep that in mind.

I don't think there is any intent by the Mid-Atlantic Council to delay. I think what they will probably do – and this is just my estimate – there would probably be at least two RSA Committees that would be held within the next eleven- month period. Then there would eventually be – that information would be provided to the full council.

It seems really important to me that this link be made between the ASMFC and the council through Chris Moore and Rick Robins, perhaps, to get started on the existing RSA Committee, because that is the one that will review this situation. I think they would welcome having some members who had different perspectives who weren't within that Mid-Atlantic Region – that would be really important – and also those members who might have species of interest, which typically do not get the RSA allocations.

MR. NOWALSKY: It seems that our goal is simply to request that the council work jointly with the commission in the review and evaluation of the RSA Program and to reinstate it in 2016. If that is our goal, may we should just say it that simply, that we're requesting that they work jointly with us; and in 15 words I think we can get our point across. If that is what we're getting towards something that simple, I can repeat that a lot more slowly.

MR. WHITE: I'm still getting my arms around this process. Our expectation is that this committee will have a recommendation of how this program will go forward; and the commission will have votes on a Mid-Atlantic Committee. If there are disagreements in there, they will have to take a vote, so commissioners will have a vote in a Mid-Atlantic Committee. I guess I don't quite see how that works. I'm thinking if that went the other way, I'm not sure we'd be as open to that.

CHAIRMAN DANIEL: We've added seats for the Mid and the New England Council on South Atlantic plans and done those kinds of things amongst councils. I understand the need to have this. We do have good ASMFC representation on the RSA Set-Aside Committee. The big gap is in the New England area, as Paul indicated.

We've got Steve Heins from New York, Bob Beal, Rob O'Reilly, Leroy and Chris Batsavage from North Carolina and Stew Michels from Delaware. You've got pretty good representation already on that committee. I think the issue is it might be nice to have somebody from New England and maybe one of the commissioners who is on the New England Council might ask to be involved in that committee, which might be a little cleaner than it being a commission/council marriage. I'm sure the state directors up in New England might be interested in doing that or one of their appointed members. I really don't know what you want to do. There are multiple options on how to skin this cat. Craig.

REPRESENTATIVE CRAIG A. MINER: Well, it sounds like there are a number of very good reasons as to why we should try and resolve this. The question is can you do it with this motion and I don't think you can. I like going back to the idea of have the executive director and perhaps you, as the leader of this organization, maybe entering into a discussion so there is no misunderstanding about what we're trying to do and making it very clear that some of the concerns that I've heard around the table here today probably aren't going to go away unless they get them resolved – unless we get them resolved in terms of reinstatement. I don't know how we do that.

I don't know if that takes a motion, which would then provide I think the standing you would need to enter into that kind of conversation. I think the goal is pretty clear, but then we wouldn't be into trying to overtake a committee that isn't probably going to be looking to be overtaken. Maybe there is a way that you can jointly figure it out.

CHAIRMAN DANIEL: Yes; I would much prefer that we be given that – that would be certainly the direction I would prefer us go in to give Bob and me the opportunity to talk to Rick and Chris and explain these things and try to figure it out. If that is agreeable to everyone, we can either amend this motion or withdraw this motion; and I don't know that we need a motion to direct us to do that as long as it is by consensus. Does anyone object to that approach? Emerson, are you comfortable withdrawing your motion with the understanding that Bob and I will take your issue to the council?

MR. HASBROUCK: Well, I'm somewhat comfortable with that, no offense, but I think I originally said move that the commission request – I forget my exact words originally here – request that the council put together a joint committee. That request would come from our chairperson and our executive director to the chairperson and the executive director of the council.

I could go back to changing this motion to say that we request that the commission – I'll just say the commission or I could say that the commission's chair and executive director work with the Mid-Atlantic Fishery Management Council to put together a joint committee to address these concerns.

MR. ABBOTT: Mr. Chairman, I do like to give you a hard time sometimes, but that motion doesn't belong to Mr. Hasbrouck at this time. It belongs to the board and I think we should probably either vote it up or down or table it for the time being.

CHAIRMAN DANIEL: That is true, Representative Abbott. All right, we have had much discussion on this and I've already gone 15 minutes overtime in my first meeting as the newly reelected chairman. Let's vote on this. I'll give you ten seconds to caucus.

(Whereupon, a caucus was held.)

CHAIRMAN DANIEL: All right, all those in favor of the motion raise your right hand; those opposed same sign. **The motion is defeated**. Craig.

REPRESENTATIVE MINER: Mr. Chairman, I guess maybe the one thing that might have been missing from my prior comments was kind of a date certain for you folks to report back; and I would that could be by the February meeting if not sooner. I don't know if that helps anybody that might be concerned that this would somehow fall off the tracks.

CHAIRMAN DANIEL: I would think we could do it well before our February meeting. It is just a matter of Bob and I scheduling a conference call with Rick and Chris. We could do that next week. Emerson.

MR. HASBROUCK: So, based on the results of that vote, I'm going to trust that the two of you go forward with the consensus of the commission here. Time is of the essence somewhat. It is my understanding that the council is going to have an RSA Committee at the December council meeting. I would request that this discussion take place – to have something in place for that December council meeting. Thank you.

MR. FOTE: Yes; since December is a joint meeting with the Atlantic States Marine Fisheries Commission and a lot of the states

that have black sea bass, summer flounder and scup are going to be there, maybe it would be a good time to have the open discussion and a report on where we are with doing this at that meeting. Since I'm not going to be there, it would be a good place to do it.

CHAIRMAN DANIEL: We haven't figured that out yet. Okay, anything else on this issue? We will let you know the results of our discussion with the Mid as soon as we have that discussion. All right, that was the longest other business issue I think I've ever handled. Terry.

MR. STOCKWELL: **Mr. Chairman, I've got a motion from the Herring Section concerning a maintenance proposal that the Coordinating Council is reviewing later this afternoon on portside catch sampling and comparative bycatch.** If I get a second for it, I'll provide the rationale.

CHAIRMAN DANIEL: It is on behalf of the committee so you don't need a second. While they're getting that up on the board, I have one other piece of other business that I'd like to jump in front of you real quick and let you know that the striped bass meeting, there is some of us concerned about the meeting room being able to hold the crowds of people that we anticipate could come to that meeting.

I don't think it is going to be Menhaden II, but it could be pretty crowded so we're going to have the live stream computers in the other rooms so the overflow crowd can go in to those meetings and listen to the deliberations. Bear with us tomorrow when we start to set up for that meeting because we may have to move a few things around and try to adjust, so we'll need your help. Any questions or concerns about that? Back to you, Terry.

MR. STOCKWELL: This motion on behalf of the Herring Section is in support of a maintenance program that the state of Maine has applied for for 13 years. It supports the portside commercial catch sampling and bycatch monitoring for herring, mackerel and menhaden fisheries from Maine to New Jersey.

If this program is not funded, it will result in the elimination of our current age-structured model, the current ASMFC spawning closure management, eliminate our involvement in haddock and river herring bycatch and incidental catch monitoring. These are important keystone monitoring for the commission and two councils. The committee had a good debate about it. It was not a unanimous vote out of concern not knowing what the other priorities of the Coordinating Council were, but it is something that is very important to most members of the Herring Section.

ADJOURNMENT

CHAIRMAN DANIEL: Any questions for Terry? **Is there any objection to the motion from the Atlantic Herring Section? Seeing none, the motion carries.** Any other business to come in front of the commission? Seeing none; we are adjourned.

(Whereupon, the meeting was adjourned at 3:05 o'clock p.m., October 28, 2014.)

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OCTOBER 30, 2014

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The Business Session of the Atlantic States Marine Fisheries Commission reconvened in the Grand Ballroom of The Mystic Hilton, Mystic, Connecticut, October 30, 2014, and was called to order at 4:30 o'clock p.m. by Chairman Louis B. Daniel, III.

CHAIRMAN DANIEL: The Business Session is in session. Resolutions Committee; Rick Bellavance.

MR. RICK BELLAVANCE: On behalf of the Resolutions Committee, which is Steve Train and Bernie Pankowski and myself, I'd first like to thank Laura and Tina and the rest of the staff for helping us develop our resolution for this event and also offer the following:

A RESOLUTION IN APPRECIATION OF CONNECTICUT AS HOST STATE

WHEREAS, the 73rd Annual Meeting of the Atlantic States Marine Fisheries Commission was held in the quaint seaport of Mystic, Connecticut, which provided a charming background for the commissioners, Management and Science, Law Enforcement, Habitat, Atlantic Coastal Fish Habitat Partnership members and the commission to staff to tackle issues of mutual concern; and

WHEREAS, the fall weather and brilliant foliage of the Connecticut coast were enjoyed by all; and

WHEREAS, the opening reception at the Mystic Aquarium was an event difficult to repeat with heartfelt remarks by our esteemed chair, Dr. Daniel; with appetizers and camaraderie enjoyed joined in the company of multi-colored lobsters and beluga whales; and

WHEREAS, the 23rd Annual Laura Leach Fishing Tournament provided anglers with opportunities for both ocean and inland fishing, with a covered bridge providing cover for Dr. Malcolm Rhodes' winning entry; and

WHEREAS, dinner at Latitude 41 gave our friends to the south a northern delicacy that northerners often take for granted, which they referred to as big crayfish, and our Connecticut hosts kept our waistlines in mind by keep the deserts to an absolute minimum; and

WHEREAS, David Simpson continued his quest to counteract the large amounts of Swedish fish consumed this week by providing healthy doses of McIntosh apples for our enjoyment; and

WHEREAS Craig Miner, sweet as he is according to Laura and ladies, anyway, provided us with honey from his bees to sweeten the rest of us; and

WHEREAS, 24TH Annual David Hart Award recognized Pat Augustine for his unwavering commitment to successful management of marine fisheries along the Atlantic Coast, with his acceptance speech not only providing much-needed encouragement to his fisheries management colleagues but also brought a tear to nearly everyone in attendance; and

WHEREAS, Bernie Pankowski was thwarted from even going out fishing for the first year; that he did not have to compete with the aforementioned Mr. Augustine, who still one-upped him by winning the David Hart Award; and

NOW, THEREFORE, BE IT RESOLVED that the Atlantic States Marine Fisheries Commission expresses its deep appreciation to the state of Connecticut commissioners, David Simpson, Craig Miner and Lance Stewart, for their exceptional assistance in the planning and conduct of this outstanding 73rd Annual Meeting. (Standing Ovation)

MR. DAVID SIMPSON: I want to thank the Resolutions Committee, too. I know we did that last year and it is a bit of fun. You got some great zingers in there, so I appreciate that. It has been great hosting. It was a lot of fun to do, actually, and the staff make it more fun. I've told Bob that and others individually, tremendous help, and it really did make it fun. It was a great opportunity for me to get my staff here and see the commission, which not all of them get to do.

Certainly my higher-ups in Hartford, it was a great opportunity and something of an eye-opening experience for some of them, especially my deputy commissioner and our legislative liaison to experience the striped bass discussion. They understand a little more now what I do when I disappear, as we all do, four times a year and struggle with these things. Thanks, everyone, and I hope you did have an enjoyable time here and we'll get back together in February.

ADJOURNMENT

CHAIRMAN DANIEL: I guess with that, the 73rd Annual Meeting of the ASMFC is adjourned.

(Whereupon, the meeting was adjourned at 4:35 o'clock p.m., October 30, 2014.)

Atlantic States Marine Fisheries Commission

South Atlantic State/Federal Fisheries Management Board

August 6, 2015
10:45 a.m. – 12:15 p.m.
Alexandria, Virginia

Draft Agenda

The times listed are approximate; the order in which these items will be taken is subject to change; other items may be added as necessary.

1.	Welcome/Call to Order *(P. Geer)*	10:45 a.m.
2.	Board Consent • Approval of Agenda • Approval of Proceedings from May 2015	10:45 a.m.
3.	Public Comment	10:50 a.m.
4.	Consider Extending the Provisions of Addendum I to the Spanish Mackerel Fishery Management Plan (*L. Daniel*) **Action**	11:00 a.m.
5.	Consider 2015 Traffic Light Assessment for Atlantic Croaker and Spot (*C. McDonough*)	11:30 a.m.
6.	Stock Assessment Updates (*J. Kipp*) **Action** • Update on 2015 Red Drum Stock Assessment • Update on 2016 Atlantic Croaker and Spot Stock Assessment • Review and Consider Approval of 2016 Atlantic Croaker and Spot Stock Assessment Terms of Reference	11:45 a.m.
7.	Consider 2015 FMP Reviews and State Compliance (*M. Ware)* **Action** • Atlantic Croaker FMP Review • Red Drum FMP Review • Black Drum FMP Review	12:00 p.m.
8.	Other Business/Adjourn	12:15 p.m.

The meeting will be held at The Westin Alexandria, 400 Courthouse Square, Alexandria, Virginia 703.253.8600

MEETING OVERVIEW

South Atlantic State/Federal Fisheries Management Board Meeting
Thursday, August 6, 2015
10:45 a.m. – 12:15 p.m.
Alexandria, Virginia

Chair: Pat Geer (GA) Assumed Chairmanship: 10/13	Technical Committee Chair: Atlantic Croaker: Chris McDonough (SC) Red Drum: Mike Murphy (FL)	Law Enforcement Committee Representative: Doug Lewis (GA)
Vice Chair: Jim Estes (FL)	Advisory Panel Chair: Tom Powers (VA)	Previous Board Meeting: May 5, 2015
Voting Members: NJ, DE, MD, PRFC, VA, NC, SC, GA, FL, NMFS, USFWS, SAFMC (12 votes)		

2. Board Consent

- Approval of Agenda
- Approval of Proceedings from May 5, 2015

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-in 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 Chair will not allow additional public comment on an issue. 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. Consider Extending the Provisions of Addendum I to the Spanish Mackerel Fishery Management Plan (11:00-11:30 a.m.) Action

Background

- Addendum I (2013) reduced the minimum size in the commercial pound net fishery to 11.5" for the 2013-2014 fishing years
- North Carolina is interested in extending this Addendum I and provided the Board with a report of landings from 2012-2014 (**Briefing Materials**)
- A preliminary electronic vote taken by the Board passed 8-0 (**Briefing Materials**)

Presentations

- Review of request by North Carolina by L. Daniel

Board actions for consideration at this meeting

- Extend Addendum I of the Spanish Mackerel FMP until a specified sunset date

5. 2015 Traffic Light Assessment for Atlantic Croaker and Spot (11:30 – 11:45 a.m.)

Background

- Addendum II (2014) of the Atlantic Croaker FMP and Addendum II (2014) of the Spot FMP establish Traffic Light Analysis as the new management framework for these species.

Presentations

- Traffic Light Analysis for Atlantic Croaker and Spot by C. McDonough (**Briefing Materials)**

6. Stock Assessment Updates (11:45 a.m. – 12:00 p.m.) Action

Background

- The Red Drum Stock Assessment had its second assessment workshop in June and will under-go peer review in August
- Both the Spot and Atlantic Croaker Stock Assessments are scheduled for completion in 2016 and the joint data workshop will be held in September
- The Atlantic Croaker Technical Committee, the Spot Plan Review Team, and the Atlantic Croaker/Spot Stock Assessment Subcommittee drafted Terms of Reference in June 2015 (**Briefing Materials**)

Presentations

- Atlantic Croaker and Spot Stock Assessment Terms of Reference by J. Kipp.

Board actions for consideration at this meeting

- Approve Terms of Reference

7. 2015 Fishery Management Plan Reviews (12:00 p.m. -12:15 p.m.) Action

Background

- Atlantic Croaker State Compliance Reports are due on July 1, 2015. The Plan Review Team reviewed each state report and compiled the annual FMP Review. Delaware, South Carolina, Georgia, and Florida have applied for *de minimis.*
- Red Drum State Compliance Reports are due on July 1, 2015. The Plan Review Team reviewed each state report and compiled the annual FMP Review. New Jersey and Delaware have applied for *de minimis.*
- Black Drum State Compliance Reports are due on March 1, 2015. The Plan Review Team reviewed each state report and compiled the annual FMP Review. No states have applied for *de minimis.*

Presentations

- Overview of the Atlantic Croaker, Red Drum, and Black Drum FMP Review Reports by M. Ware. **(Briefing Materials)**

Board actions for consideration at this meeting

- Accept 2015 FMP Reviews and State Compliance Reports
- Approve *de minimis* requests

11. Other Business/Adjourn

Megan Ware

From: SHELDON AREY <sarey2@verizon.net>
Sent: Friday, June 12, 2015 10:04 AM
To: Megan Ware; SUSANNA MUSICK
Cc: Kirby Rootes-Murdy; Ken Schultz
Subject: RE: FMP for specks

Megan

I appreciate your response to Susanna's inquiry as a result of an effort by some Virginia Speckled Trout fisherman who are concerned over the lack of population monitoring for this species in Virginia. As I understand it from taking to Mr. O'Reilly and others on this matter the population is not an important one to the state in contrast to Rockfish etc. and therefore there is no funding allocated to determining young of the year (YoY) indexes and other population monitoring etc. as is performed in other states.

Virginia has had two devastating cold Stun events over the last two winters. One in the middle of the state including the Piankitank, Corrotoman, Lynnhaven and other rivers and Rudee Inlet in the area in 2014, and this February in all the above as well as the Elizabeth River where a 60 plus year old coal fired Power Plant was closed and the population was decimated. Those of us who fish that river have had no Spotted Seatrout caught in there since the cold stun event in Mid-February 2015. Concerned anglers addressed the VMRC and were told we had nothing to worry about because the North Carolina FMP for Speckled Trout says we share the Speckled Trout population with them and they estimate that their population is healthy. Many of the concerned anglers do not believe that we should be depending on another state's FMP for Speckled Trout when we actually share the Chesapeake Bay and its tributaries with Maryland and not North Carolina and realize that many state's Speckled Trout migration studies have shown that Speckled Trout rarely travel more than 60 miles. I have been an active Speckled Trout tagger for the Virginia program and my boat has tagged almost 10 thousand Specks in the last 6 years or so. During that time I have had 3 tag returns from North Carolina total, and up until this year 4 to 6 annual returns from Maryland. I have had no returns at all from anywhere since the Feb 15 cold stun. Susanna has mentioned that the Recreational Anglers have worked with the VMRC to use angler license money to fund a two year Speckled Trout Genetics study that hopefully will shed light on the issue of if we share a significant Speckled Trout population with NC or not. In the mean time we have to wait until the commercial fisheries totals for Speckled Trout caught this Spring and Fall in Virginia and the angler tagging data to provide any meaningful information that would allow the VMRC the data needed to reduce the Speckled Trout harvest to a point where the species may have some chance of recovery. We have already had the two top spawning months occur for Specks in the area for this year and we have no idea what the overall health and welfare of the species is in Virginia and yet the season for commercial and recreational harvesting remains as in previous years.. I can tell you anecdotally that my network of about a dozen Speck addicts over the state can only say that about a dozen overall have been caught that they have heard of and they themselves as a group have not caught more than 3 or 4 combined.

So why am I talking to you? Mr. O'Reilly indicated that if the AMSFC told the states that they need to support FMPs for their states the VMRC would be required to respond to that direction and develop a Virginia or cooperative Virginia and Maryland FMP for Speckled Trout (since we share the Chesapeake Bay system). I am hoping that you can provide the concerned Speckled Trout fisherman of Virginia some guidance on what path we need to follow to have a working discussion undertaken by the ASMFC to mandate at least a Chesapeake Bay FMP for Speckled Trout.

Yes we are focused on Speckled Trout and to some extent it was because up until the cold stuns that started in the winter of 2014 it was the last really good fishery in the state in comparison to what some of us experienced in past years. I appreciate your time and effort in listening to us and if you can provide any guidance on the way ahead that we can potentially follow to get our concerns heard it would be helpful.

Atlantic States Marine Fisheries Commission

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MEMORANDUM

July 13, 2015

To: South Atlantic Board

From: Megan Ware, FMP Coordinator

RE: Preliminary Continuation of Addendum I to the Spanish Mackerel FMP

Addendum I to the Spanish Mackerel Fishery Management Plan (FMP) reduced the minimum size limit in the commercial pound net fishery from 12" to 11.5". The intent of the Addendum was to reduce seasonal regulatory discards during the months of July through September. The management measure was implemented as a pilot program and only applied to the 2013 and 2014 fishing seasons; however, the Addendum did allow for the extension of the 11.5" minimum size pending results of the program. North Carolina was the only state to adopt the reduced minimum size.

In June 2015, North Carolina expressed interest in continuing the 11.5" minimum size during the 2015 fishing season. The state prepared a report outlining the impacts of Addendum I on their catch of Spanish mackerel between 2012 and 2014. The report found that while the percentage of catch in the pound net fishery remained fairly stable (ranging from 3-5%), the proportion of Spanish mackerel caught between 11.5"-11.99" increased from 3% in 2012, to 18% in 2013, and then decreased to 8% in 2014. Similarly, the catch of Spanish mackerel under 11.5" increased from less than 1% in 2012, to 19% in 2013, and then decreased to 7% in 2014.

Since the July 1st start date was before the next Board meeting on August 6th, an electronic vote was taken by the Board. The vote was considered a hold-over until further discussion at the August Board meeting and only applied from July 1, 2015 until August 6, 2015. A "Yes" vote meant North Carolina would be allowed to continue to use the 11.5" minimum size until further discussion and a final vote at the August Board meeting.

Votes were received from 8 parties and the extension passed 8-0. Votes were not received from two states. As a result, North Carolina will be allowed to continue to use the 11.5" minimum size in their commercial pound net fishery until further discussion at the August Board meeting.

North Carolina Division of Marine Fisheries

Report to Atlantic States Marine Fisheries Commission South Atlantic Board: Spanish Mackerel Addendum I Pilot Program

June 15, 2015

Introduction

In August 2013, the South Atlantic State-Federal Fisheries Management Board (Board) approved a two-year pilot program through Addendum I to the Interstate Fishery Management Plan for Spanish Mackerel to allow states to reduce the commercial minimum size limit of Spanish mackerel from 12 inches to 11.5 inches (fork length) in the pound net fishery during the months of July through September. The intent was to reduce dead discards of these undersized fish that do not survive the bunting and bailing of the net during the summer months. The use of cull panels to allow for escape of undersized Spanish mackerel at this time of year has met with only limited success.

This exemption applied only for the 2013 and 2014 fishing years to allow the Board to review the impacts of the pilot program and determine if it should be allowed to continue. North Carolina was the only state to apply this exemption in its pound net fisheries during both years. The results of sampling efforts and the impacts on harvest are detailed in the tables and figures below.

Results

A description of the North Carolina Spanish mackerel fishery and associated harvest characteristics from 2000-2012, including the pound net fishery, is contained in Addendum I and incorporated herein by reference. The following information is based on data collected through the North Carolina Trip Ticket Program and fishery-dependent biological sampling.

Tables 1a and 1b contain Spanish mackerel landings and proportion of harvest by pound nets vs. all other gear types, respectively, for the years 2012-2014. Although the pilot program only applied to fishing years 2013 and 2014, harvest characteristics from 2012 are included for comparison. Total Spanish mackerel commercial landings, as well as that from pound nets, decreased substantially in 2013 relative to 2012 and increased only slightly in 2014 (Table 1a). However, the overall proportion of commercial landings of Spanish mackerel from pound nets stayed relatively constant over all three years (Table 1b), representing approximately four percent of total Spanish mackerel harvest. Table 2 provides an additional breakdown of landings by major gear type; harvest from gill nets clearly dominates landings.

The proportions of Spanish mackerel pound net landings by size bin were calculated using commercial trip ticket data and fishery-dependent sampling. The number of individuals, weight, and length frequencies (fork length) of Spanish mackerel in a pound net sample were expanded to represent the species quantities in the total state pound net catch (trip sample data were expanded to represent the total catch). Expansion was accomplished by matching at the market grade level biological fish house sample data (mean weight or length data) to the corresponding commercial trip ticket market grade harvest. For example, the total length frequency of a species within a catch was derived by expanding the length frequency of the individuals measured in the subsample of a market grade (culled samples) to the total market category weight of that species in the sampled trip. These sample distributions were then summed and the summed distribution applied to the total landings of that market grade.

All of the monthly market grade distributions were summed to produce a single monthly length distribution (i.e., weighted by number of individuals in each distribution); similarly, annual distributions were summed to produce a single weighted annual distribution. In instances where only partial data sets were obtained, such as no fish house length data for a reported trip ticket market grade of extra-large, the number of fish values was applied to the proportions of fish greater than or equal to 12 inches fork length. However, in June 2013, 1,382 small market grade Spanish mackerel are not accounted for in the length distributions due to the high variability of proportion at size above and below the 11.50 to 11.99 inch threshold and no corresponding substitute sample for an applicable estimate. In cases where species collection weight was obtained, but not species collection number, substitute estimates based on means calculated from available data (e.g., average year market weight) in the same or adjacent sampling cells were used to fill in missing values.

Tables 3 and Figure 1 show the proportions of July through September Spanish mackerel pound net harvest accounted for by different size bins for the years 2012-2014. There was a distinct increase of the proportions of fish below 11.5 inches during these months, from one percent in 2012 to 23 percent in 2013. Similarly, the proportion of fish harvested between 11.5 and 11.99 inches increased from 14 percent in 2012 to 23 percent in 2013. In 2014, the proportion of fish less than 11.5 inches dropped to 15 percent of Spanish mackerel pound net harvest during July through August, while the proportion of fish between 11.5 and 11.99 inches dropped to 10 percent.

Table 4 and Figure 2 illustrate the annual proportions of Spanish mackerel pound net harvest (in numbers of fish) by size bin. On an annual basis, the proportion of fish less than 11 inches increased from one percent to 19 percent in 2013, but dropped back down to seven percent in 2014. The proportion of fish between 11.5 and 11.99 inches increased from less than one percent to 18 percent in 2013, and fell back to eight percent of annual Spanish mackerel pound net harvest in 2014.

Discussion

The harvest of Spanish mackerel by pound nets in North Carolina represents a small fraction of the total commercial landings. Despite the decrease in pound net landings of Spanish mackerel in 2013, the proportion of fish harvested within the exempted size limit and below is unexpectedly high in comparison to 2014. There are several possible reasons for this: a decrease in the total number of pound net trips in 2013 compared to 2012; the relatively short timeframe during which this fishery occurs; and the small geographic area (the eastern edge of Pamlico Sound on the backside of the Outer Banks). All of these factors combined to produce limited fishery-dependent sampling opportunities in 2013 for the pound net fishery. Indeed, Table 3 illustrates that the bulk of 2013 Spanish mackerel pound net landings occurred in June, prior to the Board's approval of Addendum I. Fewer available trips and a shortened season can result in missed sampling of certain market grades, as noted above, which impacts the ability to accurately characterize the fishery. For these reasons, 2014 may be a better comparison with regard to the effectiveness and impact of the size limit exemption on harvest.

Finally, while the proportional increases in harvest by size bin in 2013 are high in comparison to 2012 and 2014, the magnitude of that harvest is relatively small in comparison to the total harvest (across all fisheries) of Spanish mackerel. Applying the proportions of July through September harvest below 11.5 inches and between 11.5 and 11.99 inches from Table 4 to the pound net landings during these months in Table 3, approximately 5,800 pounds of Spanish mackerel under the regular 12-inch size limit were harvested in 2013 (roughly 2,900 lbs below 11.5 inches and 2,900 pounds between 11.5 and 11.99 inches). Similarly for 2014, approximately 700 pounds of Spanish mackerel below 11.5 inches and 500 pounds between 11.5 and 11.99 inches were harvested by pound nets.

Table 1a. North Carolina Spanish mackerel landings (pounds) by pound nets vs. other gears (2012-2014).

Gear Type	2012	2013	2014	Grand total
Pound net	104,586	18,764	25,600	148,950
Other gears	2,034,686	598,051	645,508	3,278,245
TOTAL	2,139,272	616,815	671,108	3,427,195

Table 1b. North Carolina Spanish mackerel proportion of landings from pound nets vs. other gears (2012-2014).

Gear Type	2012	2013	2014	Grand total
Pound net	5%	3%	4%	4%
Other gears	95%	97%	96%	96%
TOTAL	100%	100%	100%	100%

Table 2. North Carolina Spanish mackerel landings (pounds) by major gear type (2012-2014).

Gear Type	2012	2013	2014
Beach seine	39	44	23
Estuarine gill net	914,303	250,521	221,895
Long haul	432	682	1,069
Ocean gill net	1,119,912	346,804	422,521
Pound net	104,586	18,764	25,600
TOTAL	2,139,272	616,815	671,108

Table 3. North Carolina pound net landings (pounds) by month (2012-2014).

Month	2012	2013	2014
May	9,519	-	389
June	72,572	6,222	20,262
July	11,522	4,408	2,425
August	5,438	3,585	2,297
September	5,244	4,357	218
October	292	111	9
November	-	81	-
TOTAL	104,587	18,764	25,600

Table 4. Proportion of July - September Spanish mackerel pound net landings (number of fish) by size class (2012-2014).

Size (July-Sept)	2012	2013	2014
<11.5 in	1%	23%	15%
11.5-11.99 in	14%	23%	10%
>=12 in	85%	54%	75%

Table 5. Proportion of annual Spanish mackerel pound net landings (number of fish) by size class (2012-2014).

Size (Jan-Dec)	2012	2013	2014
<11.5 in	<1%	19%	7%
11.5-11.49 in	3%	18%	8%
>=12 in	97%	63%	84%

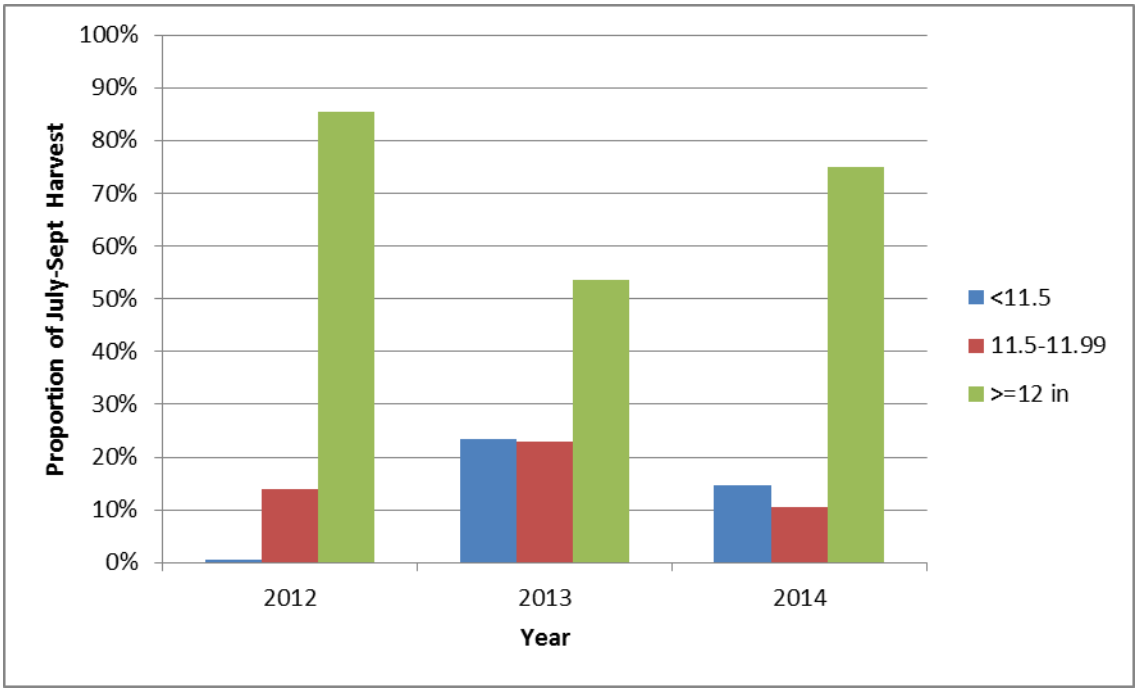


Figure 1. Proportion of July through September Spanish mackerel pound net harvest accounted for by different size bins (2012-2014).

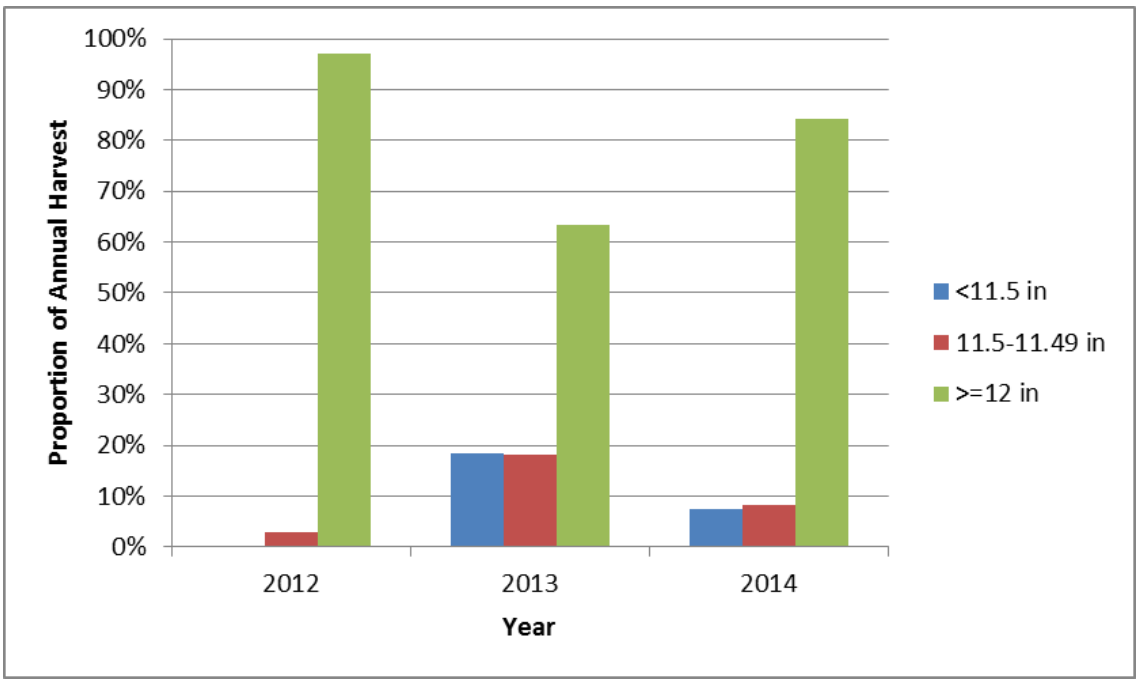
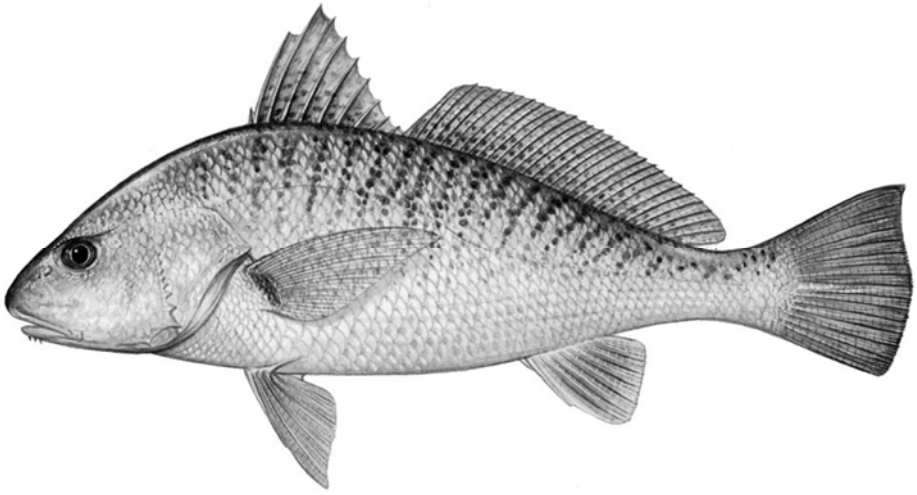


Figure 2. Proportion of annual Spanish mackerel pound net harvest accounted for by different size bins (2012-2014).

2015 Traffic Light Analysis of Atlantic Croaker (*Micropogonias undulatus)* for the Atlantic States Marine Fisheries Commission Fishery Management Plan Review

2014 Fishing Year



Atlantic Croaker Plan Review Team

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Introduction

Atlantic croaker are managed under Amendment 1 to the Interstate Fishery Management Plan for Atlantic Croaker (2005) and Addendum I (2011). The Amendment does not require any specific measures restricting harvest but encourages states with conservative measures to maintain them. It also implemented a set of management triggers, based on an annual review of certain metrics, to respond to changes in the fishery or resource and initiate a formal stock assessment on an accelerated timeline if necessary. The Addendum revises the management program's biological reference points to assess stock condition on a coastwide basis as recommended by the 2010 stock assessment.

In August 2014, the South Atlantic State/Federal Fisheries Management Board approved Addendum II to Amendment I to the Atlantic Croaker Fishery Management Plan (FMP). The Addendum establishes a new management framework (i.e., Traffic Light Approach or TLA) to evaluate fisheries trends and develop state-specified management actions (i.e., bag limits, size restrictions, time & area closures, and gear restrictions) when harvest and abundance thresholds are exceeded. The TLA is a statistically-robust way to incorporate multiple data sources (both fishery-independent and -dependent) into a single, easily understood metric for management advice. It is often used for data-poor species, or species which are not assessed on a frequent basis, such as blue crabs in North Carolina and snow crabs in the Gulf of St. Lawrence. As such, its serves as an excellent management tool for Atlantic croaker, which was last assessed in 2010.

The name comes from assigning a color (red, yellow, or green) to categorize relative levels of indicators on the condition of the fish population (abundance metric) or fishery (harvest metric). For example, as harvest or abundance increase relative to their long-term mean, the proportion of green in a given year will increase and as harvest or abundance decrease, the amount of red in that year becomes more predominant. Under the Addendum, state-specific management action would be initiated when the proportion of red exceeds specified thresholds (30% or 60%), for both harvest and abundance, over three consecutive years.

The current management triggers for Atlantic croaker compare annual changes in various indices (e.g. recent landings and survey information) to review trends in the fisheries. The Atlantic Croaker Technical Committee expressed concern that previous review methodology did not illustrate long-term trends in the stock nor did it include specific management measures to implement in response to declines in the stock or fishery. This resulted in the change to the TLA for annual review of Atlantic croaker. A new stock assessment for Atlantic croaker was begun in 2015 and the current management triggers from the TLA will be re-evaluated and adjusted as needed once the stock assessment has been completed.

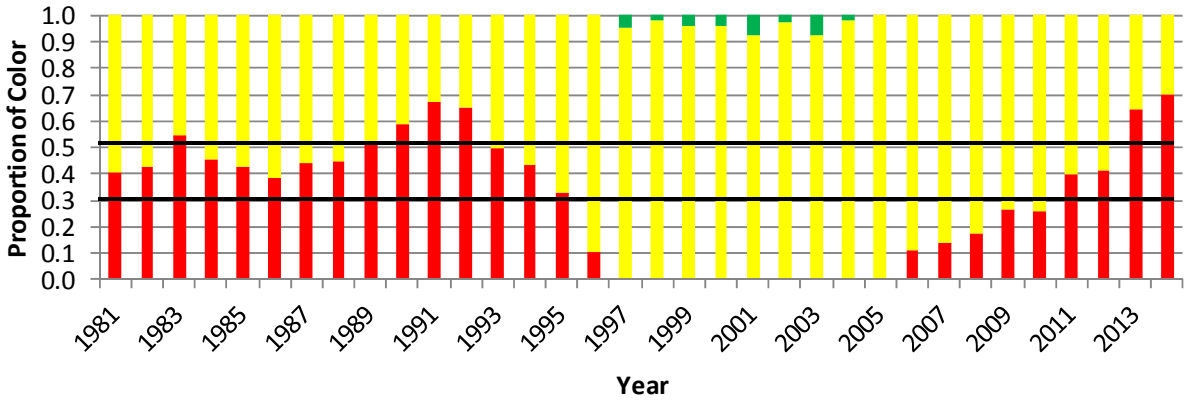
The indices used for the TLA include both commercial and recreational harvest (fishery dependent) and four fishery independent monitoring surveys that occur in different areas of the Atlantic coast of the United States. The fishery independent surveys include the Northeast Fisheries Science Center (NMFS) fall ground fish trawl survey, the Virginia Institute of Marine Science (VIMS) trawl survey, the North Carolina Dept. of Marine Fisheries trawl program 195, and the Southeast Area Monitoring Assessment Program (SEAMAP) trawl survey.

Traffic Light Analysis (Fishery Dependent)

Commercial Landings

- Commercial landings were down 41.2% from 2013 and were at one of the lowest levels of harvest since the 1960s.
- The TLA for commercial landings was above the 60% threshold for the second year in a row in 2014 (Fig. 1). This was the fourth year in a row where landings were above the 30%.
- The three year red proportion average was 58.7% which tripped the trigger for this index.

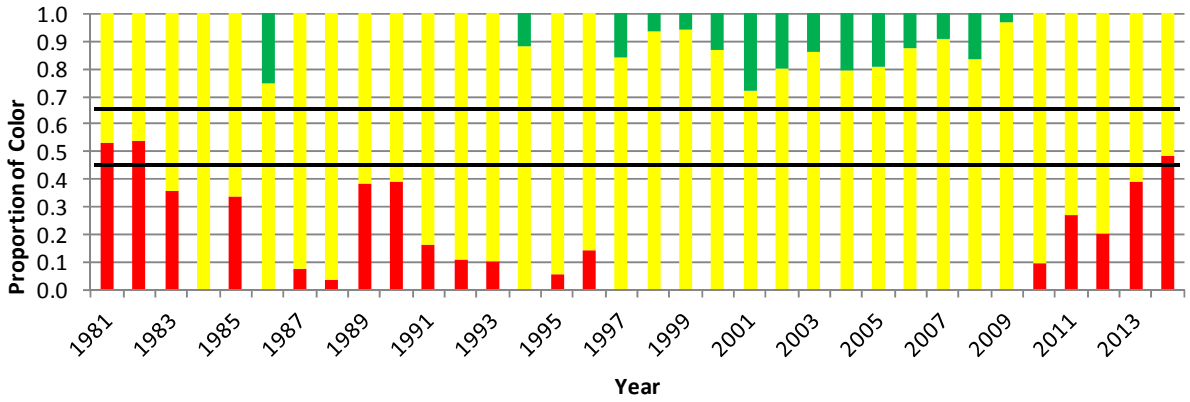
Figure 1. Annual TLA color proportions for Atlantic croaker commercial landings for the Atlantic coast of the US.



Recreational Harvest

- The recreational harvest index also continued to decrease in 2014, down 22.5% from 2013.
- The recreational harvest level in 2014 (3,092,699 lbs) was among the lowest annual harvests in the entire time series (1981-2014) and the only years with lower levels occurred in the first two years of the data series.
- Annual percent standard error (PSE) levels were elevated (> 20%) but not quite at the level where considered completely unreliable (> 50%).
- The proportion of red in the TLA for the last three years was 35.9% (Fig. 2), indicating the recreational index would have also triggered in 2014 at the 30% level. However, the red proportion was only above 30% for the last two years (2013-2014).

Figure 2. Annual TLA color proportions for Atlantic croaker from Atlantic coast (NJ-FL) recreational harvest of the U.S. based on a 1996-2008 reference period.

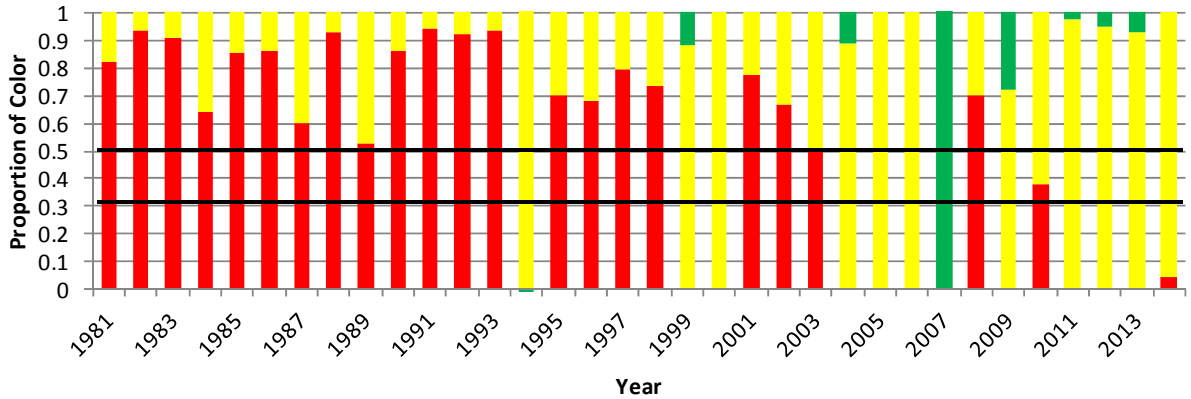


Traffic Light Analysis (Fishery Independent Surveys)

NEFSC/NMFS Fall Groundfish Survey

- The NMFS index declined ~22% in 2014 with only a small proportion of red in the TLA (Fig. 3).
- The index dropped just below the long term mean for the series (which was why there was some red in the TLA) for the first time since 2010 but was still at a relatively good index level.
- The TLA trigger would not have tripped on the NMFS index in 2014 given the high catch levels in the previous three years.

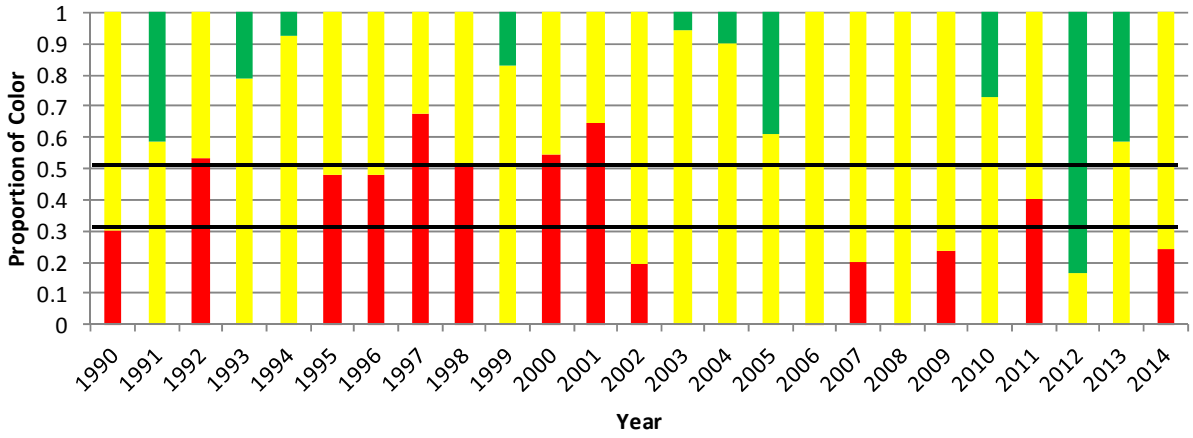
Figure 3. Annual TLA color proportions for Atlantic croaker from NMFS ground-fish trawl survey based on 1996-2008 reference period.



SEAMAP Survey

- The SEAMAP index declined for the second year in a row and was down 64.8% from 2013 and dropped below the long term mean but still remained above the red/yellow threshold (60% of long term mean).
- The red proportion in 2014 was 24.1% and was the first year since 2011 with any red in the TLA (Fig. 4).
- The TLA trigger for the SEAMAP survey did not trip in 2014.

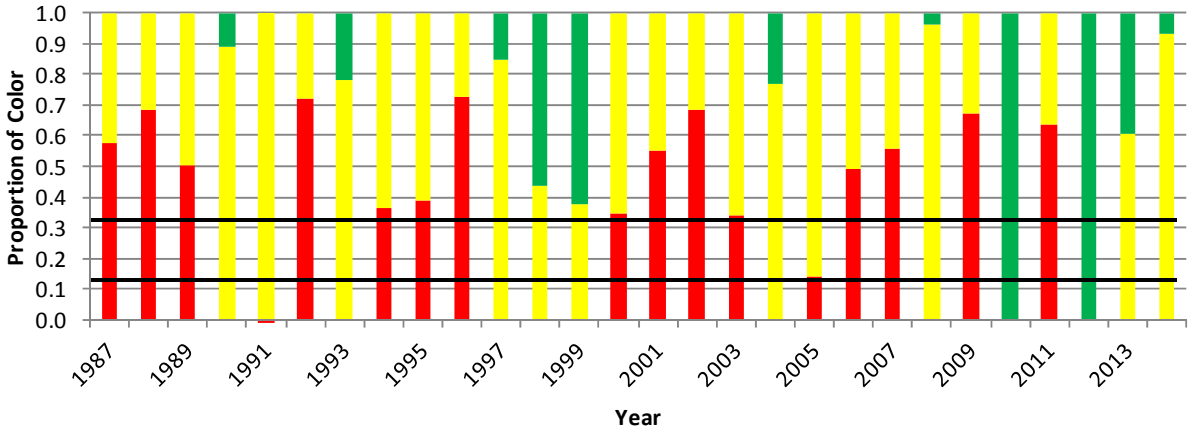
Figure 4. Traffic Light Model for SEAMAP catch data by weight



North Carolina Program 195

- The North Carolina index also declined in 2014 (down 64.3% from 2013) for the second year in a row, but did not drop below the long term mean for the data series.
- While the TLA indicates a declining trend for the last two years (decreasing green proportions, Figure 5), general catch levels in the index remained above the long term mean for the series and did not trigger in 2014.

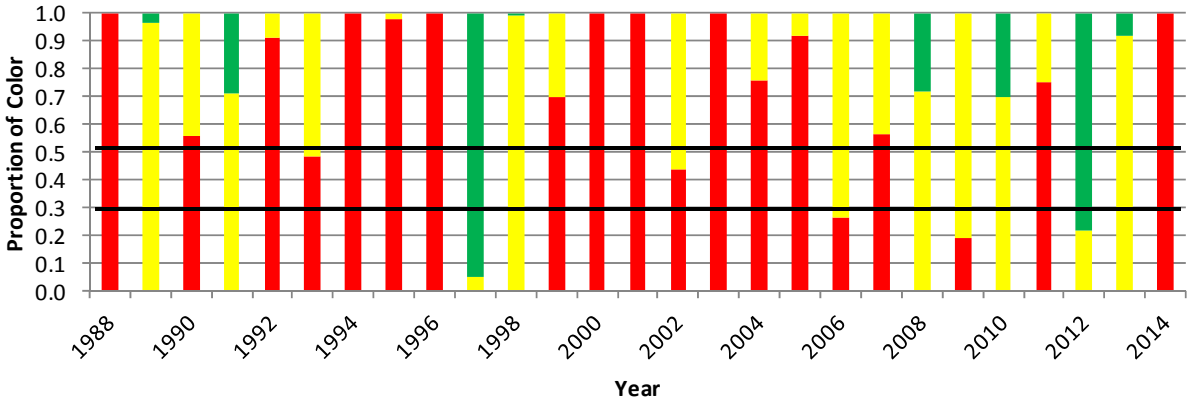
Figure 5. NCDMF Program 195 FTLA color proportions for Atlantic croaker



VIMS Survey

- The VIMS index dropped significantly (90.7%) in 2014 from 2013 and represented one of the lowest levels in the entire time series. The index dropped so much, that the TLA red proportion for 2014 was 100% red (Fig. 6).
- However, even with the precipitous decline in 2014, relative catch levels were high the two previous years (including a peak in 2012) so the index would not have tripped the TLA trigger.
- Even without tripping the TLA trigger, the decline in 2014 is concerning given the level to which it dropped.

Figure 6. Annual TLA color proportions for Atlantic croaker from VIMS spring trawl survey.

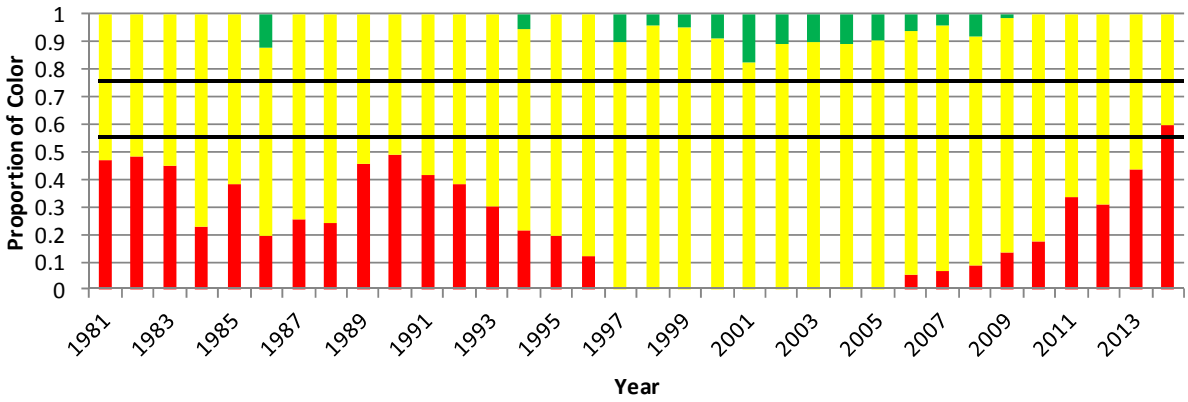


Traffic Light Analysis (Composite Indexes)

Harvest Composite Index

- The harvest composite TLA index indicates that the management response trigger would have been tripped for the second year in a row.
- The mean red proportion for this time period (2012-2014) was 44.5% which was well above the 30% threshold.

Figure 7. Annual color proportions for harvest composite TLA of Atlantic Croaker recreational and commercial landings



Abundance Composite Characteristic Indexes

The abundance composite TLA index was broken into two components based age composition. The adult composite index was generated from the NMFS and SEAMAP surveys since the majority of Atlantic croaker captured in those surveys were ages 1+. The juvenile composite index was generated from the NC program 195 and VIMS surveys because these two captured primarily young-of-the-year Atlantic croaker.

- All four abundance composite indexes showed declines in 2014 with red occurring in all but one (NC 195) of the TLA indexes.
- The adult composite TLA characteristic (Fig. 8) did not trigger in 2014 with only a 14.2% red proportion and no red in the two previous years.
- The juvenile composite TLA characteristic (Fig. 9) had a red proportion level above the 30% threshold in 2014, which was due to the precipitous drop in the VIMS index. While the NC 195 index did drop in 2014, it did not do so enough to bring it into the red zone.
- The juvenile composite characteristic index did not trip in 2014 due to the higher index values in 2012-2013 such that the three year red proportions were below the 30% threshold.
    - The higher annual variability for the different color proportions in the juvenile composite characteristic (compared to the adult composite characteristic) is likely a reflection of annual recruitment variability rather than population trends.
    - It is also worthwhile to point out that the trends in the two abundance composite characteristics reflect each other closely for the last three years with declining trends.

Figure 8. Adult croaker TLA composite characteristic index (NMFS and SEAMAP surveys).

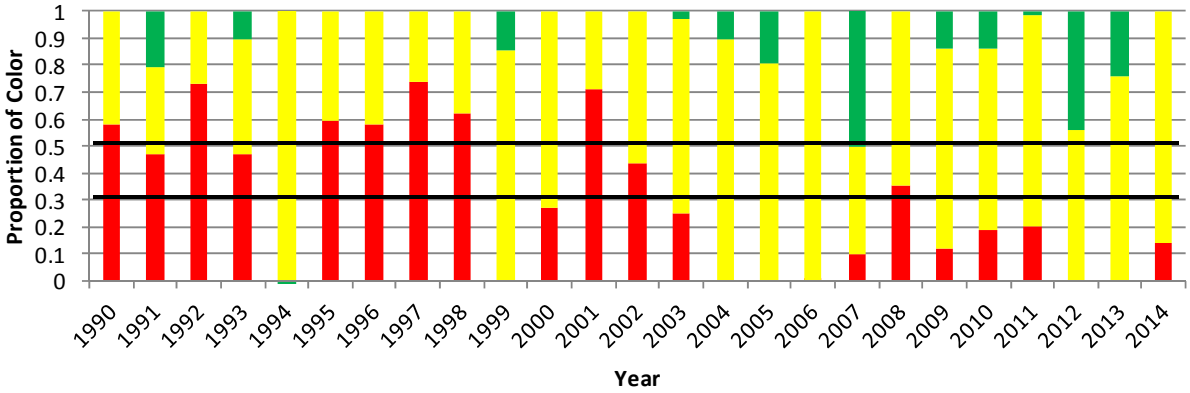
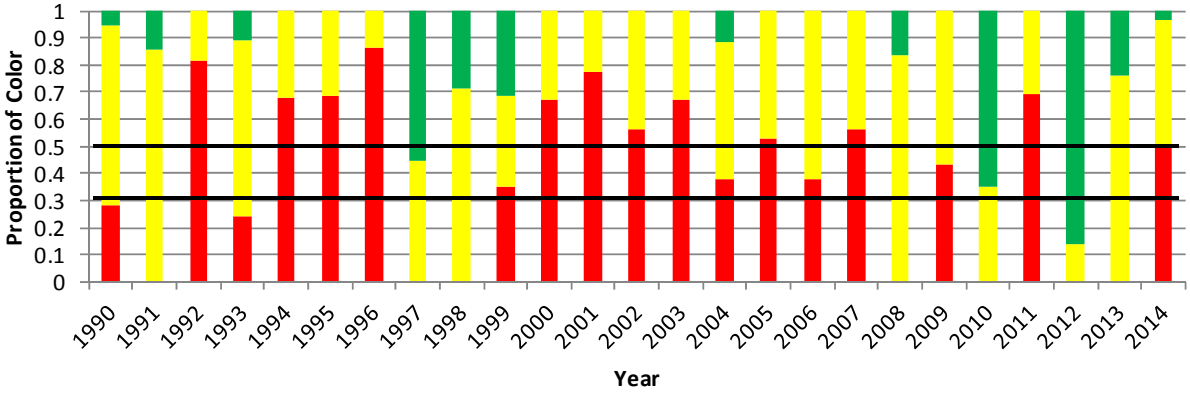


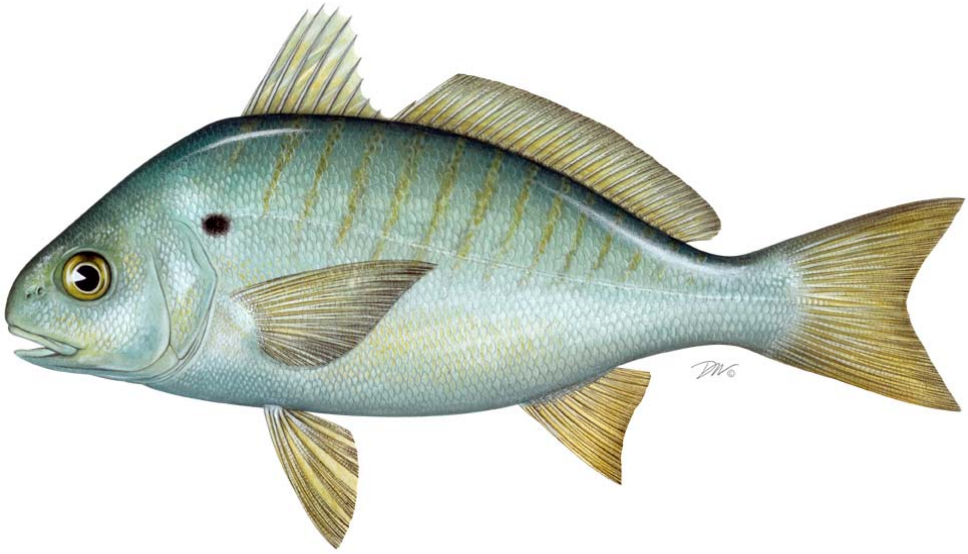
Figure 9. Juvenile croaker TLA composite characteristic index (NC 195 and VIMS surveys).



While the management triggers were not tripped in 2014, since not all of the composite characteristics showed red proportions of greater than 30% for the 2012-2014 time period, the declining trends in both the fishery independent indices as well as the drop in both commercial and recreational harvests for the Atlantic coast are of concern. The stock assessment, which has just gotten underway in 2015, will hopefully provide some answers on both the nature of these trends as well as general state of the Atlantic coast croaker stock.

2015 Traffic Light Analysis of Spot (*Leiostomus xanthurus)* for the Atlantic States Marine Fisheries Commission Fishery Management Plan Review

2014 Fishing Year



Plan Review Team

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Adam Kenyon: Virginia Marine Resources Commission
Harry Rickabaugh: Maryland Dept. of Natural Resources
Megan Ware: Atlantic States Marine Fisheries Commission (Chair)

*Prepared analysis and report

Introduction

Spot is managed under the Omnibus Amendment for Spot, Spotted Seatrout, and Spanish Mackerel (2011) and Addendum I (2014). The Omnibus Amendment updates all three species plans with requirements of the Commission's ISFMP Charter. No coastwide assessment has been performed for spot; however, spot are a target or component of several state surveys using trawls, gillnets, or seine nets. Abundance indices have been highly variable throughout the survey time series. The Commission has begun preparations for the development of the first coastwide benchmark stock assessment in 2015 for final presentation to the South Atlantic Management Board in 2016.

In the absence of a coastwide stock assessment, the South Atlantic Board approved Addendum I to the Spot FMP in 2014. The Addendum establishes use of a Traffic Light Analysis (TLA), similar to that used for Atlantic croaker, to evaluate fisheries trends and develop state-specified management actions (e.g., bag limits, size restrictions, time and area closures, and gear restrictions) when harvest and abundance thresholds are exceeded for two consecutive years. The TLA is a statistically-robust way to incorporate multiple data sources (both fishery-independent and -dependent) into a single, easily understood metric for management advice. It is often used for data-poor species, or species which are not assessed on a frequent basis. The name comes from assigning a color (red, yellow, or green) to categorize relative levels of indicators on the condition of the fish population (abundance metric) or fishery (harvest metric). For example, as harvest or abundance increase relative to their long-term mean, the proportion of green in a given year will increase and as harvest or abundance decrease, the amount of red in that year becomes more predominant. The TLA improves the management approach as it illustrates long-term trends in the stock and includes specific management recommendations in response to declines in the stock or fishery. Under the Addendum, state-specific management action would be initiated when the proportion of red exceeds specified thresholds (30% or 60%), for both harvest and abundance, over two consecutive years.

The current management triggers for spot compare annual changes in various indices (e.g. recent landings and survey information) to review trends in the fisheries. The spot Plan Review Team expressed concern that previous review methodology did not illustrate long-term trends in the stock nor did it include specific management measures to implement in response to declines in the stock or fishery. This resulted in the change to the TLA for annual review of spot. A new stock assessment for spot was begun in 2015 and the current management triggers from the TLA will be re-evaluated and adjusted as needed once the stock assessment has been completed.

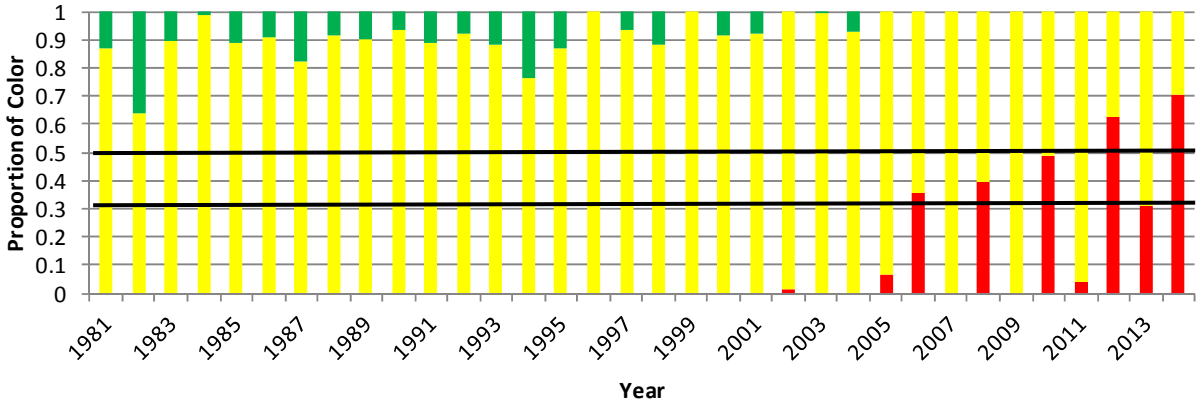
The indices used for the TLA include both commercial and recreational harvest (fishery dependent) and three fishery independent monitoring surveys that occur in different areas of the Atlantic coast of the United States. The fishery independent surveys include the Northeast Fisheries Science Center (NMFS) fall ground fish trawl survey, the Maryland Dept. of Natural Resources juvenile striped bass seine survey, and the Southeast Area Monitoring Assessment Program (SEAMAP) trawl survey.

Traffic Light Analysis (Fishery Dependent)

Commercial

- Commercial landings for spot on the Atlantic coast were down 76% in 2014, continuing a declining trend that has been going on since 2004. While annual landings are highly variable in a relatively short lived species like spot, the apparent magnitude of the decline has increased in the last five years.
- The TLA for commercial landings generally did not show any red in the index until 2005 when the decline began (Fig. 1), after which it has steadily increased over alternating years.
- The TLA index tripped at the 30% level in 2014, and would have also been tripped in the two previous years at that level if the TLA scheme had been in place. The previous management trigger scheme (10th percentile trigger) did not trigger in either of the two previous years.

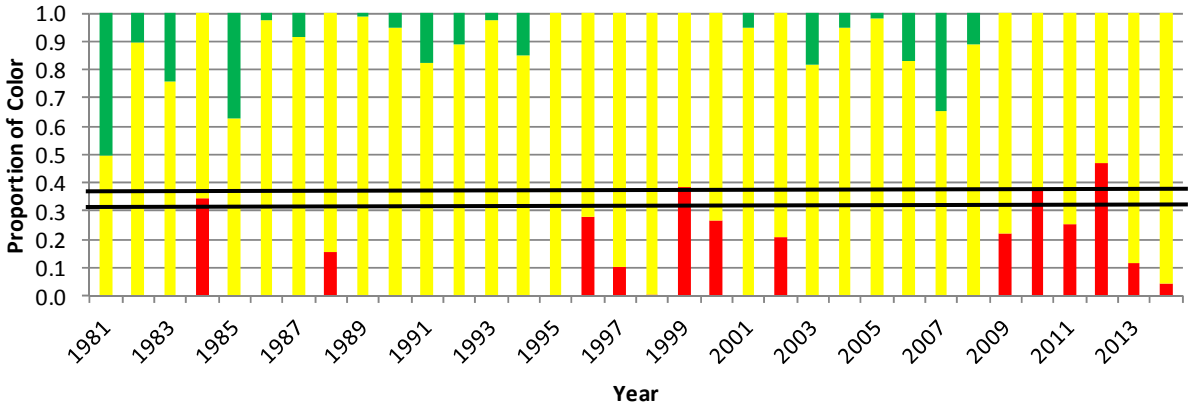
Figure 1. Annual FTLA color proportions using 1981-2012 reference time period for Spot from NMFS commercial landings for the Atlantic coast of the U.S.



Recreational

- The recreational harvest (in lbs) for spot on the Atlantic coast increased slightly (~10%) in 2014 from 2013.
- Annual harvest in the recreational fishery has been below the long term mean (LTM) since 2009 and was still below that threshold in 2014.
- There were two periods of general decline in the time series which occurred from 1995-2002 and 2009-2014 (Fig. 2).
- The red proportion of the TLA decreased in 2014 to 4.5% and would not have tripped the trigger in 2014.
- However, in previous years, the trigger would have tripped in 2011 and 2012 at the 30% threshold.

Figure 2. Annual TLA color proportions using 1989-2012 reference period for spot from recreational harvest in LBS on the Atlantic coast of the U.S.

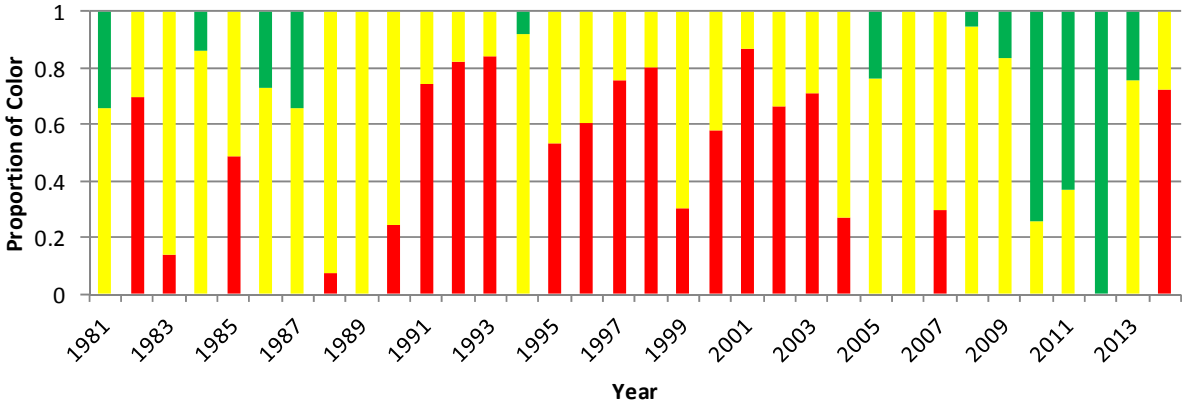


Traffic Light Analysis (Fishery Independent)

NEFSC/NMFS Fall Groundfish Trawl Survey

- The NMFS index declined significantly (90.2%) in 2014 from 2013. This annual decrease followed another large decline (64.2%) that occurred in 2013. Both of these declines followed the peak year (2012) that occurred in the entire time series (1972-2014).
- The longest time period with high red proportions in the TLA occurred from 1990-2003 (Fig. 3), after which catch steadily increased until the peak in 2012. Higher proportions of green in the index did not occur until 2010-2012 when the catch was well above the LTM.
- The TLA did trip the trigger in 2014 at the 30% level with the two year average red proportion at 36% high. This was due to the very high proportion of red in 2014 (72.5%) due to the sharp drop in CPUE.

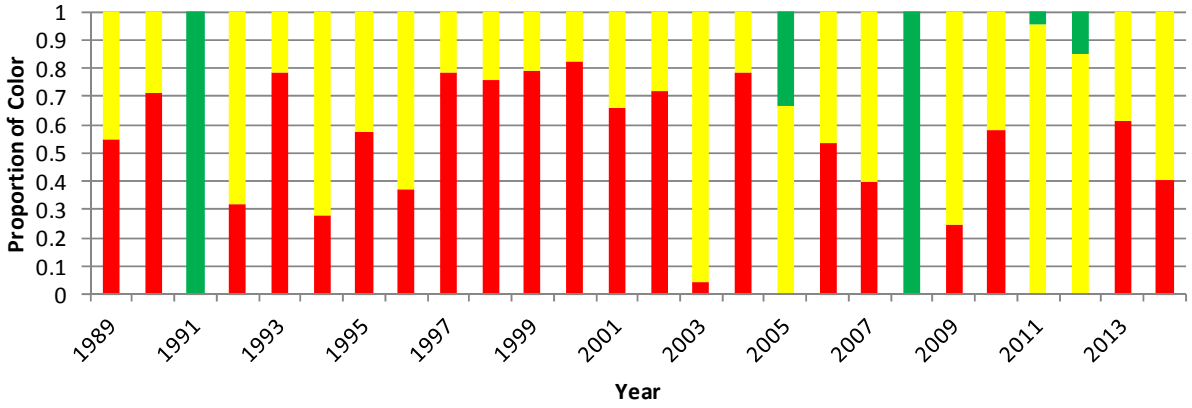
Figure 3. Annual FTLA color proportions for spot from NMFS fall groundfish survey using 1989-2012 reference time period.



SEAMAP Trawl Survey

- While annual CPUE did increase in 2014, it still remained below the LTM and thus still had a red proportion of 40.3%.
- The TLA index did trigger in both 2013 and 2014 with two year combined red proportions of 30.6% and 59.0% respectively.
- Examining previous years under the TLA scheme, the trigger would have been tripped in most years except for 2008, 2009, 2010 and 2011.

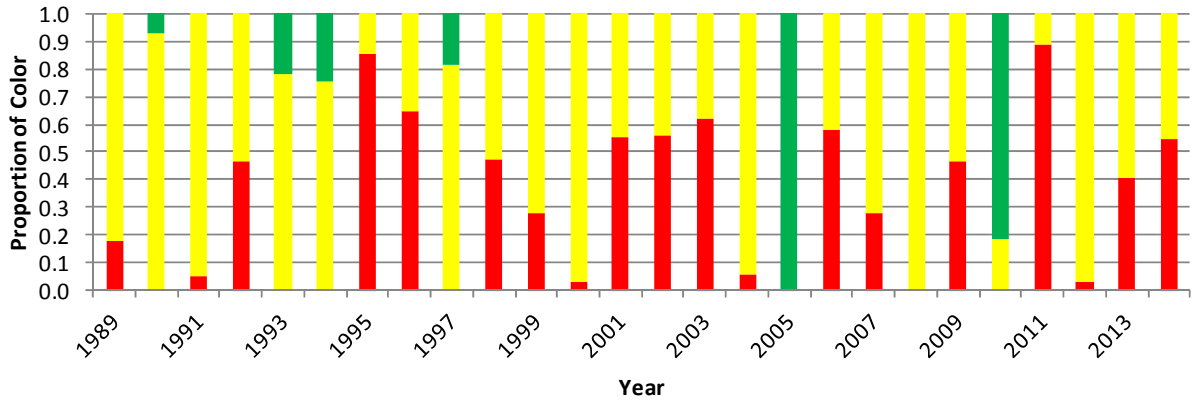
Figure 4. Annual FTLA color proportions for spot from SEAMAP survey using 1989-2012 reference time period.



Maryland Juvenile Striped Bass Survey

- Since the Maryland survey was the only juvenile index used in the trigger exercise it was used by itself to compare to the other two composite characteristic indexes (harvest and abundance).
- The Maryland CPUE declined 25% in 2014 resulting in a red proportion in the TLA index of 54% (Fig. 5). This was the third year in a row of decline in the index.
- Mean annual CPUE was only above the LTM twice since 1998 with peak years occurring in 2005 and 2010. The large fluctuations in CPUE (and alternating red and green proportions in the TLA) were likely due to changes in annual recruitment and year-class strength rather than population changes as this is a juvenile fish index.
- The TLA trigger did trip in 2014 at the 30% threshold. In previous years of the index, the trigger would have also tripped in almost all of the years from 1995-2013 except in the two peak years of 2005 and 2010.

Figure 5. Annual TLA color proportions for the Maryland seine survey juvenile index using 1990-2012 reference period.

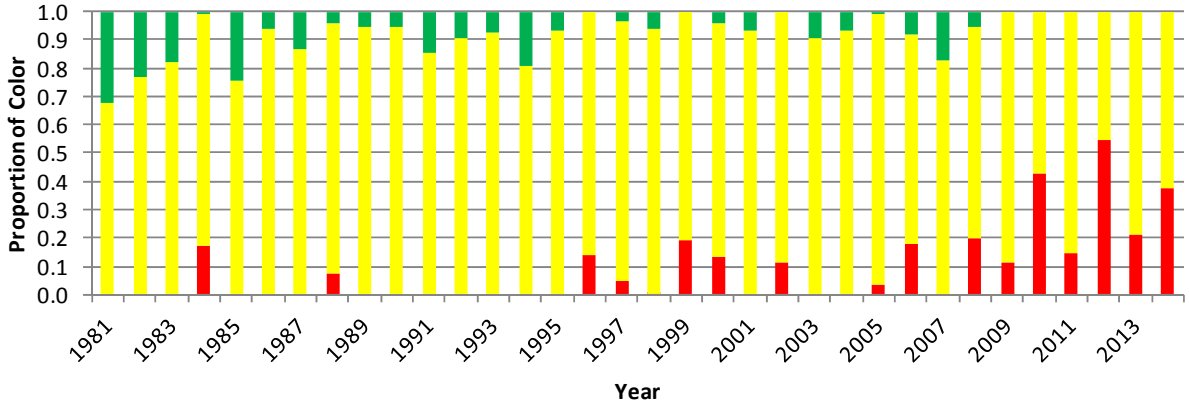


Traffic Light Analysis (Composite Indexes)

Harvest Composite Characteristic Index

- The harvest composite characteristic TLA showed a general decline beginning in 2005 (Fig. 6).
- The composite characteristic did not quite trip in 2014 with the mean red proportion of 29.4% for 2013-2014. However, the index did trip in 2013 (38.1%) and 2012 (34.8%).
- The decline in the composite index was driven mostly by the decline in commercial landings rather than the recreational harvest.

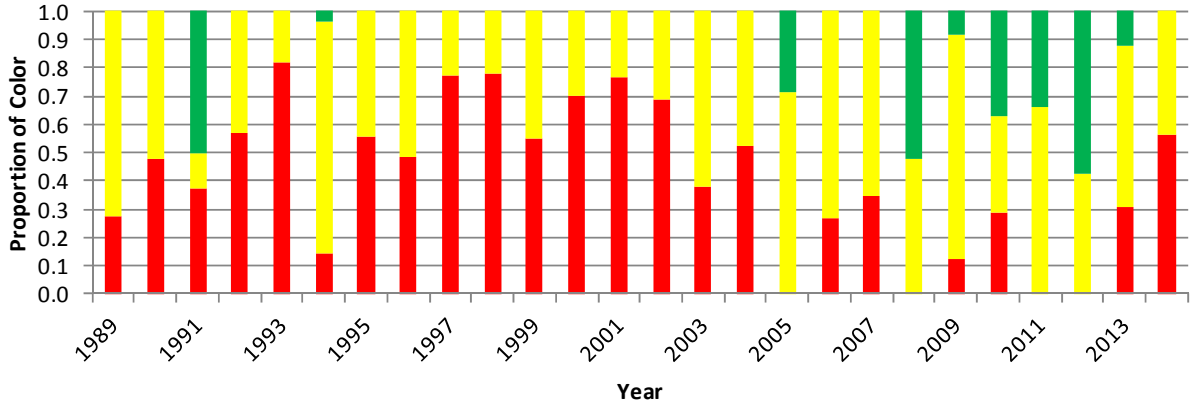
Figure 6. Annual TLA color proportions for composite commercial and recreational harvest of spot for the Atlantic coast of the United States using a 1989-2012 reference period.



Abundance Composite Characteristic Index

- The TLA composite characteristic for adult spot (NMFS and SEAMAP surveys) was run using the 1989-2014 time period since that was when the two surveys overlapped.
- The TLA composite characteristic did trigger in 2014 with a mean red proportion for 2013-2014 of 43.5% (Fig 7). This isn't surprising given the drop in annual catch levels in both indexes for the last two years.
- During past years, the index would have tripped most years from 1989 to 2004 given the proportions of red in the index above the 30% threshold (Fig. 7).

Figure 7. Annual TLA color proportions for composite index of NMFS and SEAMAP surveys for Spot using a 1989-2012 reference period.



The TLA composite characteristic indexes tripped for both adult and juvenile spot and came very close to the 30% threshold in the harvest composite index (29.4%). Additionally given that all of the composite characteristics showed increasing red proportions in the last two years there does seem to be cause for concern with spot. The stock assessment, which has just gotten underway in 2015, will hopefully provide some answers on both the nature of these trends as well as the general state of the Atlantic coast spot stock.

Atlantic States Marine Fisheries Commission

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MEMORANDUM

July 14, 2015

To: **South Atlantic State-Federal Management Board**

From: **Atlantic Croaker and Spot Stock Assessment Subcommittee**

RE: **Draft Terms of Reference for 2016 Atlantic Croaker Benchmark Stock Assessment**

The next Atlantic Croaker Stock Assessment is scheduled to be completed in 2016. In order to meet this deadline, work must begin on the assessment this fall. The Board will need to approve Terms of Reference at the August 2015 South Atlantic Board Meeting. The Atlantic Croaker and Spot Stock Assessment Subcommittee has recommended the Board consider the following Terms of Reference for the assessment and as well as the Peer Review Panel:

Draft Terms of Reference for the 2016 Atlantic Croaker Benchmark Stock Assessment

1. Characterize uncertainty of fishery-dependent and fishery-independent data used in the assessment, including the following but not limited to:
    a. Provide descriptions of each data source (e.g., geographic location, sampling methodology, potential explanation for outlying or anomalous data)
    b. Describe calculation and potential standardization of abundance indices.
    c. Discuss trends and associated estimates of uncertainty (e.g., standard errors)
    d. Justify inclusion or elimination of available data sources.
    e. Discuss the effects of data strengths and weaknesses (e.g., temporal and spatial scale, gear selectivity, aging accuracy, sample size) on model inputs and outputs.
2. Review estimates and PSEs of MRIP recreational fishing estimates. Request participation of MRIP staff in the data workshop process to compare historical and current data collection and estimation procedures and to describe data caveats that may affect the assessment.
3. Develop estimates of Atlantic croaker discards in the South Atlantic shrimp trawl fishery. Develop estimates of bycatch and discards in other fisheries where possible. Characterize uncertainty of all discard and bycatch estimates.
4. Develop models used to estimate population parameters (e.g., F, biomass, abundance) and biological reference points, and analyze model performance.
    a. Describe stability of model (e.g., ability to find a stable solution, invert Hessian)
    b. Justify choice of CVs, effective sample sizes, or likelihood weighting schemes.
    c. Perform sensitivity analyses for starting parameter values, priors, etc. and conduct other model diagnostics as necessary.
    d. Clearly and thoroughly explain model strengths and limitations.

    e. Briefly describe history of model usage, its theory and framework, and document associated peer-reviewed literature. If using a new model, test using simulated data.
    f. If multiple models were considered, justify the choice of preferred model and the explanation of any differences in results among models.
5. State assumptions made for all models and explain the likely effects of assumption violations on synthesis of input data and model outputs. Examples of assumptions may include (but are not limited to):
    a. Choice of stock-recruitment function.
    b. Calculation of M. Choice to use (or estimate) constant or time-varying M and catchability.
    c. Choice of equilibrium reference points or proxies for MSY-based reference points.
    d. Choice of a plus group for age-structured species.
    e. Constant ecosystem (abiotic and trophic) conditions.
6. Characterize uncertainty of model estimates and biological or empirical reference points.
7. Perform retrospective analyses, assess magnitude and direction of retrospective patterns detected, and discuss implications of any observed retrospective pattern for uncertainty in population parameters (e.g., F, SSB), reference points, and/or management measures.
8. Recommend stock status as related to reference points (if available). For example:
    a. Is the stock below the biomass threshold?
    b. Is F above the threshold?
9. Other potential scientific issues:
    a. Compare trends in population parameters and reference points with current and proposed modeling approaches, including recent results of the Traffic Light Approach. If outcomes differ, discuss potential causes of observed discrepancies.
    b. Compare reference points derived in this assessment with what is known about the general life history of the exploited stock. Explain any inconsistencies.
10. If a minority report has been filed, explain majority reasoning against adopting approach suggested in that report. The minority report should explain reasoning against adopting approach suggested by the majority.
11. Develop detailed short and long-term prioritized lists of recommendations for future research, data collection, and assessment methodology. Highlight improvements to be made by next benchmark review.
12. Recommend timing of next benchmark assessment and intermediate updates, if necessary relative to biology and current management of the species.

Terms of Reference for Peer Review Panel

1. Evaluate the thoroughness of data collection and the presentation and treatment of fishery-dependent and fishery-independent data in the assessment, including the following but not limited to:
    a. Presentation of data source variance (e.g., standard errors).
    b. Justification for inclusion or elimination of available data sources,

    c. Consideration of data strengths and weaknesses (e.g., temporal and spatial scale, gear selectivity, aging accuracy, sample size),
    d. Calculation and/or standardization of abundance indices.
2. Evaluate methods used to develop discard and bycatch estimates.
3. Evaluate the methods and models used to estimate population parameters (e.g., F, biomass, abundance) and biological reference points, including but not limited to:
    a. Evaluate the choice and justification of the preferred model(s). Was the most appropriate model (or model averaging approach) chosen given available data and life history of the species?
    b. If multiple models were considered, evaluate the analysts' explanation of any differences in results.
    c. Evaluate model parameterization and specification (e.g., choice of CVs, effective sample sizes, likelihood weighting schemes, calculation/specification of M, stock-recruitment relationship, choice of time-varying parameters, plus group treatment).
4. Evaluate the diagnostic analyses performed, including but not limited to:
    a. Sensitivity analyses to determine model stability and potential consequences of major model assumptions
    b. Retrospective analysis
5. Evaluate the methods used to characterize uncertainty in estimated parameters. Ensure that the implications of uncertainty in technical conclusions are clearly stated.
6. If a minority report has been filed, review minority opinion and any associated analyses. If possible, make recommendation on current or future use of alternative assessment approach presented in minority report.
7. Recommend best estimates of stock biomass, abundance, and exploitation from the assessment for use in management, if possible, or specify alternative estimation methods.
8. Evaluate the choice of reference points and the methods used to estimate them. Recommend stock status determination from the assessment, or, if appropriate, specify alternative methods/measures.
9. Review the research, data collection, and assessment methodology recommendations provided by the TC and make any additional recommendations warranted. Clearly prioritize the activities needed to inform and maintain the current assessment, and provide recommendations to improve the reliability of future assessments.
10. Recommend timing of the next benchmark assessment and updates, if necessary, relative to the life history and current management of the species.
11. Prepare a peer review panel terms of reference and advisory report summarizing the panel's evaluation of the stock assessment and addressing each peer review term of reference. Develop a list of tasks to be completed following the workshop. Complete and submit the report within 4 weeks of workshop conclusion.

If you have any questions, please contact Megan Ware at mware@asmfc.org or (703) 842 0740

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MEMORANDUM

July 14, 2015

To: **South Atlantic State-Federal Management Board**

From: **Atlantic Croaker and Spot Stock Assessment Subcommittee**

RE: **Draft Terms of Reference for 2016 Spot Benchmark Stock Assessment**

The next Spot Stock Assessment is scheduled to be completed in 2016. In order to meet this deadline, work must begin on the assessment this fall. The Board will need to approve Terms of Reference at the August 2015 South Atlantic Board Meeting. The Atlantic Croaker and Spot Stock Assessment Subcommittee has recommended the Board consider the following Terms of Reference for the assessment and as well as the Peer Review Panel:

Terms of Reference for the 2016 ASMFC Spot Benchmark Stock Assessment

1. Characterize uncertainty of fishery-dependent and fishery-independent data used in the assessment, including the following but not limited to:
    a. Provide descriptions of each data source (e.g., geographic location, sampling methodology, potential explanation for outlying or anomalous data)
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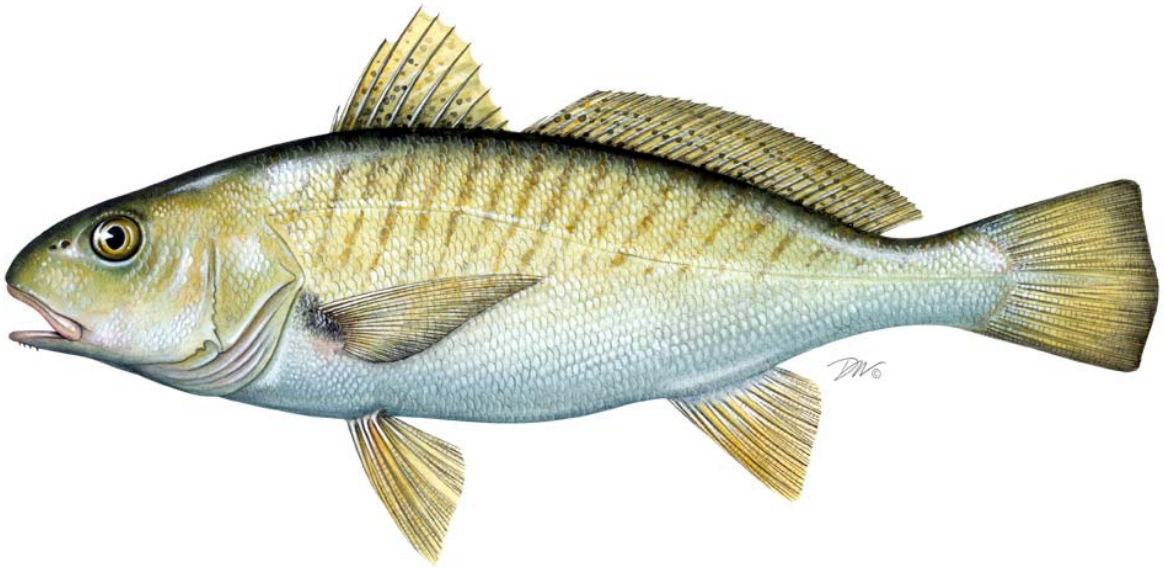
2015 REVIEW OF THE
ATLANTIC STATES MARINE FISHERIES COMMISSION
FISHERY MANAGEMENT PLAN FOR

ATLANTIC CROAKER
(Micropogonias undulatus)

2014 FISHING YEAR



Atlantic Croaker Plan Review Team
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Megan Ware, Atlantic States Marine Fisheries Commission, Chair

Table of Contents

I. Status of the Fishery Management Plan

Date of FMP Approval: Original FMP – October 1987

Amendments: Amendment 1 – November 2005 (implemented January 2006)
Addendum I – March 2011
Addendum II – August 2014

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

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

The Fishery Management Plan (FMP) for Atlantic Croaker was adopted in 1987 and included the states from Maryland through Florida (ASMFC 1987). In 2004, the South Atlantic State/Federal Fisheries Management Board (Board) reviewed the FMP and found its recommendations to be vague. As a result, the Board recommended an amendment be prepared to define management measures necessary to achieve the goals of the FMP. The Interstate Fisheries Management Program Policy Board also adopted the finding that the original FMP did not contain any management measures that states were required to implement.

In 2002, the Board directed the Atlantic Croaker Technical Committee to conduct the first coastwide stock assessment of the species in preparation of developing an amendment. The Atlantic Croaker Stock Assessment Subcommittee developed a stock assessment in 2003, which was approved by a Southeast Data Assessment Review (SEDAR) panel for use in management in June 2004 (ASMFC 2005a). The Board quickly initiated the development of an amendment and in November 2005, approved Amendment 1 to the Atlantic Croaker FMP (ASMFC 2005b). The amendment was fully implemented by January 1, 2006.

The goal of Amendment 1 is to utilize interstate management to perpetuate the self-sustainable Atlantic croaker resource throughout its range and generate the greatest economic and social benefits from its commercial and recreational harvest and utilization over time. Amendment 1 contains four objectives:

1) Manage the fishing mortality rate for Atlantic croaker to provide adequate spawning potential to sustain long-term abundance of the Atlantic croaker population.
2) Manage the Atlantic croaker stock to maintain the spawning stock biomass above the target biomass levels and restrict fishing mortality to rates below the threshold.
3) Develop a management program for restoring and maintaining essential Atlantic croaker habitat.
4) Develop research priorities that will further refine the Atlantic croaker management program to maximize the biological, social, and economic benefits derived from the Atlantic croaker population.

Amendment 1 expanded the management area to include the states from New Jersey through Florida. Consistent with the stock assessment completed in 2004, the amendment defined two

Atlantic coast management regions: the south-Atlantic region, including the states Florida through South Carolina; and the mid-Atlantic region, including the states North Carolina through New Jersey.

Amendment 1 established biological reference points (BRPs) to define an overfished and overfishing stock status for the mid-Atlantic region only. Reliable stock estimates and BRPs for the South Atlantic region could not be developed during the 2004 stock assessment due to a lack of data. The BRPs were based on maximum sustainable yield (MSY), and included threshold and target levels of fishing mortality (F) and spawning stock biomass (SSB): F threshold = F_{MSY} (estimated to be 0.39); F target = 0.75 X F_{MSY} (estimated to be 0.29); SSB threshold = 0.7 X SSB_{MSY} (estimated to be 44.65 million pounds); and SSB target = SSB_{MSY} (estimated to be 63.78 million pounds). An SSB estimate below the SSB threshold resulted is an overfished status determination, and an F estimate above the F threshold resulted is an overfishing status determination. The Amendment established that the Board would take action, including a stock rebuilding schedule if necessary, should the BRPs indicate an overfished stock or a stock subject to overfishing.

Amendment 1 did not require any specific measures restricting recreational or commercial harvest of Atlantic croaker. States with more conservative measures were encouraged to maintain those regulations (Table 1). Through adaptive management, the Management Board may revise Amendment 1, and regulatory and/or monitoring requirements could be included in the resulting addendum, along with procedures for implementing alternative management programs via conservation equivalency.

The Board initiated Addendum I to Amendment I at its August 2010 meeting, following the updated stock assessment, in order to address the proposed reference points and management unit. The stock assessment evaluated the stock based on a coastwide unit, rather than the two management units established within Amendment I. In approving Addendum I, the Management Board endorsed the consolidation of the stock into one management unit, as proposed by the stock assessment. In addition, Addendum I established a procedure, similar to other species, by which the Board may approve peer-reviewed BRPs without a full administrative process, such as an amendment or addendum.

Addendum I did not add or change any additional management measures or requirements. The only existing requirement is for states to submit an annual compliance report by July 1 of each year that contains commercial and recreational landings as well as results from any monitoring programs that intercept Atlantic croaker.

In August 2014, the Board approved Addendum II to the Atlantic Croaker FMP. The Addendum established the Traffic Light Approach (TLA) as the new precautionary management framework to evaluate fishery trends and develop management actions. The TLA was originally developed as a management tool for data poor fisheries. The name comes from assigning a color (red, yellow, or green) to categorize relative levels of population indicators. When a population characteristic improves, the proportion of green in the given year increases. Harvest and abundances thresholds of 30% and 60% were established in Addendum II, representing moderate and significant concern for the fishery. If thresholds for both population characteristics achieve or exceed a threshold for a three year period, then management action is enacted.

The TLA framework replaces the management triggers stipulated in Addendum I. Under the previous management scheme, action was taken if recreational and commercial landings dropped below 70% of the previous two year average. These triggers, however, were limited in their ability to illustrate long-term declines or increases in stock abundance. In contrast, the TLA approach better illustrates trends in the fishery through changes in the proportion of green, yellow, and red coloring.

II. Status of the Stock

Stock status is based on the data and results of the 2010 stock assessment (ASMFC 2010). Results include revised biological reference points (below). These reference points are ratio-based and apply to the entire coastwide resource (unlike those in Amendment 1). Overfishing is occurring if F/F_{MSY} is greater than 1 and the stock is considered overfished if $SSB/(SSB_{MSY}(1-M))$ is less than 1.

	Overfishing Definition	Overfished Definition
Target	$F/(F_{MSY}*0.75) = 1$	$SSB/SSB_{MSY} = 1$
Threshold	$F/F_{MSY} = 1$	$SSB/(SSB_{MSY}(1-M)) = 1$

Atlantic croaker is not experiencing overfishing. According to the 2010 stock assessment, biomass has been increasing and fishing mortality decreasing since the late 1980s. Biomass conclusions are based on information from the data compiled for the assessment, namely increasing indices of relative abundance and expanding age structure in the catch and indices. Model estimated values of fishing mortality (F), spawning stock biomass (SSB), and biological reference points are too uncertain to be used to determine stock status. However, the ratio of F to F_{MSY} (the F needed to produce maximum sustainable yield) is reliable and can be used to determine that overfishing is not occurring. It is not possible to be confident with regard to stock status, particularly a biomass determination, until the discards of Atlantic croaker from the South Atlantic shrimp trawl fishery can be adequately estimated and incorporated into the stock assessment.

Absolute estimates of total F are unavailable because of model uncertainty; however, the general trend in total F from the model is considered reliable due to support from the data. The trend in total F decreases substantially during the first five years of the time series (1988-1992) and shows an overall decline over the remainder of the time series, except for occasional, brief spikes (Figure 1). Retrospective analysis of the model showed that estimates of F decreased as more years of data were used. A series of sensitivity runs conducted over a range of plausible values of shrimp-trawl fishing mortality found that the ratio of directed fishing mortality to F_{MSY} was less than one in all cases, indicating overfishing was not occurring.

Absolute estimates of SSB are unavailable because of model uncertainty; however, the general trend in SSB from the model is considered reliable due to support from the data. Spawning stock biomass shows a nearly consistent increasing trend since 1998 (Figure 2). Sensitivity runs of the model, including rough estimates of shrimp trawl discards, do not change the overall trend in SSB. Retrospective analysis of the model showed that estimates of SSB increased as more years of data were used.

Recruitment, estimated in the model as age-1 abundance, has been variable but generally increasing over the time series. Figure 2 shows the trend in recruitment; absolute values are omitted because of uncertainty in abundance estimates. The model estimated the production of strong year classes in 1997, 2001, and 2007.

III. Status of the Fishery

Total Atlantic croaker harvest from New Jersey through the east coast of Florida in 2014 is estimated at 10.08 million pounds (Tables 2 and 3, Figure 3). This represents a 75% decline in total harvest since the peak of 41.2 million pounds in 2001 (77% commercial decline, 72% recreational decline). The commercial and recreational fisheries harvested 70% and 30% of the total, respectively. The vast majority of landings are from the Mid-Atlantic region (97% in 2014), and the recent decline in total landings is a result of both commercial and recreational landings declines in that region, although some states showed increases in either or both sectors (Figure 4). Commercial and recreational landings in the South Atlantic region have been generally stable over the last decade; however, 2010 showed large decreases in the recreational harvest of the South Atlantic states' fisheries. Recreational and commercial harvests in the South Atlantic region rose to 2.7% of coastwide harvest in 2014 from 2.3% in 2013.

Atlantic coast commercial landings of Atlantic croaker exhibit a cyclical pattern, with low domains in the 1960s to early 1970s and the 1980s to early 1990s, and high domains in the mid-to-late 1970s and the mid-1990s to 2011 (Figure 3). Commercial landings increased from a low of 3.7 million pounds in 1991 to 30.1 million pounds in 2001 (Table 2); however, landings have declined consistently since 2003 to 7.0 million pounds in 2014, which registers below the 1960-2014 average of 13.45 million pounds. Within the management unit, the majority of 2014 commercial landings came from Virginia (49%) and North Carolina (37%). Maryland had the next highest level, with 7% of coastwide landings.

From 1981-2014, recreational landings of Atlantic croaker from New Jersey through Florida have varied between 2.8 million fish (1.3 million pounds) and 13.2 million fish (11.1 million pounds; Tables 3 and 4, Figure 5). Landings generally increased until 2001, held stable from 2001-2006 before exhibiting a declining trend from 2007 through 2014. The 2014 landings are estimated at 6.2 million fish and 3.06 million pounds. Virginia was responsible for 55% of the 2014 recreational landings, in numbers of fish, followed by Maryland (17.5%), and Delaware (5.8%). This is change from 2013 when New Jersey accounted for 11% of recreation catch, in numbers of fish. The number of recreational releases has increased over the time series, but appears to be in decline since 2008 (Figure 5). In 2014, anglers released roughly 10 million fish, a decline from the 14 million fish released in 2013. Anglers released an estimated 62% of the croaker catch in 2014 (Figure 5).

IV. Status of Assessment Advice

A statistical catch-at-age (SCA) model was used in the last Atlantic croaker stock assessment (ASMFC 2010). This model combines the catch-at-age data from the commercial and recreational fisheries with information from fishery-independent surveys and biological information such as growth rates and natural mortality rates to estimate the size of each age class and the exploitation rate of the population. The assessment was peer reviewed by a panel of experts in conjunction with the Southeast Data, Assessment, and Review (SEDAR) process.

The Review Panel was unable to support some of the assessment results due to uncertainty regarding the estimation of Atlantic croaker discards in the shrimp trawl fishery, and the application of estimates in modeling. Specifically, model-estimated values of stock size, fishing mortality, and biological reference points are too uncertain for use; however, the trends in model-estimated parameters and ratio-based fishing F reference points are considered reliable. Adequate discard estimates cannot be developed from currently available data and assessments of Atlantic croaker will be unreliable until adequate estimates are properly incorporated into modeling. Despite the uncertainty in assessment results caused by shrimp trawl bycatch, the Review Panel concluded that it is unlikely that the stock is in trouble. The stock is not experiencing overfishing, biomass has been trending up, commercial catches are stable, and discards from the shrimp trawl fishery have been much reduced.

In conjunction with recommending the TLA for Atlantic croaker in 2014, the Plan Review Team also recommended the species for a stock assessment. The next benchmark stock assessment is scheduled for 2016.

V. Status of Research and Monitoring

There are no research or monitoring programs required of the states except for the submission of an annual compliance report. The following fishery-dependent (other than catch and effort data) and fishery-independent monitoring programs were reported in the 2015 compliance reports.

Fishery-Dependent Monitoring

- New Jersey: initiated biological monitoring of commercially harvested Atlantic croaker in 2006 in conjunction with ACCSP (2014: n=27)
- Maryland: commercial pound net fishery biological sampling (1,436 length measurements, 193 samples aged in 2014); Maryland Charter Boat CPUE (1993-present; 2014 catch was a time-series low of 82,387)
- Delaware: collects information on pounds landed, area fished, effort, and gear type data through mandatory monthly state logbook reports submitted by fishermen.
- PFRC: has a mandatory commercial harvest daily reporting system.
- Virginia: commercial fishery biological sampling (6,976 length measurements, 6,975 weight measurements, 364 otolith ages, and 666 sex determinations in 2014)
- North Carolina: commercial fishery biological sampling since 1982 for length, weight, otolith, sex determination, and reproductive condition.
- South Carolina: recreational fishery biological sampling via SCDNR State Finfish Survey, MRIP, and a SCDNR-managed mandatory trip reporting system for licensed charter boat operators. In 2013, SCDNR took over MRIP data collection in SC.
- Georgia: collects biological information through the Marine Sportfish Carcass Recovery Project (4 fish in 2014)
- Florida: commercial fishery biological sampling (27 length measurements in 2014)

Fishery-Independent Monitoring

- New Jersey: 3 nearshore ocean (within 12 nm) juvenile trawl surveys (New Jersey Ocean Trawl Survey 1988-present; 2014 CPUE above time-series average but below 2013 value; nearshore Delaware Bay juvenile trawl survey (1991-present; 2014 survey index was well below time series average); Delaware River juvenile seine survey (1980-present; 2014 survey index was below time series average but above 2013 value)

- Delaware: offshore Delaware Bay adult finfish trawl survey (1990-present; 2014 #/tow = 2.456; 82% decrease in relative abundance from 2013 index, dropping below mean and median for time series); nearshore Delaware Bay juvenile finfish trawl survey (1980-present; 2014 index increased from 1.16 in 2013 to 6.63; Inland Bays index increased from 1.83 in 2013 to 3.22 in 2014)
- Maryland: Atlantic coast bays juvenile otter trawl survey (standardized from 1989-present; 2014 GM of 0.67 fish/hectare before time series mean of 1.62); Chesapeake Bay juvenile trawl survey (standardized from 1989-present; 2014 CPUE decreased from 2.24 in 2013 to 0.97); incidental catches in Maryland coastal bays juvenile seine survey (1972-present) and Chesapeake Bay juvenile seine survey (1959-present; 2014 indices decreased from 0.30 in 2013 to 0.00).
- Virginia: VIMS Juvenile Finfish and Blue Crab Trawl Survey (1988-present; 2014 index representing the 2013 year class was 1.550 which is down from the 2013 value of 16.6655.)
- North Carolina: Pamlico Sound juvenile trawl survey (1987-present; 2014 juvenile abundance index (mean number of individuals/tow) was 324, below the time series average)
- South Carolina: estuarine electroshock survey for juveniles (2001-present; 2014 CPUE 61.5% from 2013); SEAMAP shallow water (15-30 ft) trawl survey from Cape Hatteras to Cape Canaveral (1989-present; 2014 CPUE decreased 64.8% from 2013); inshore estuarine trammel net survey for adults (May-September, 1991-present; 2014 CPUE decreased 25.1% from 2013); SCECAP estuarine trawl survey (1999-present, primarily targets juveniles, CPUE stable since 2010).
- Georgia: Marine Sportfish Population Health Survey (trammel and gill net, 2002-present;); Ecological Monitoring Survey (trawl, 2003-present; 2014 n = 21,340; CPUE decreased from 347.78 in 2012 to 171.69 in 2014); Trammel and gill net surveys in the Altamaha River Delta and Wassaw estuary (2014: n=139)
- Florida: juvenile seine survey (2002-present; 2014 index continued variable trend with a decrease from 2013); juvenile trawl survey (2002-present; 2014 index continued variable trend with a decrease from 2013); adult haul seine survey (2001-present; 2014 index value increased from 2013)

The Northeast Fishery Science Center performs a randomly stratified groundfish survey along the U.S. east coast. Atlantic croaker are one of the main species caught throughout much of the survey area and, since the surveys started in 1972, it provides a long term data set. Regionally, mean CPUE of Atlantic croaker has increased from north to south. Since 1994, there has been an increase in annual catch variability. Catch levels in 2014 decreased 22.9% from 2013, going below the long term mean for the first time since 2010.

The Northeast Area Monitoring and Assessment Program (NEAMAP) also conducts nearshore trawl surveys from Cape Cod, MA to Cape Hatteras, NC. NEAMAP grew out of an ASMFC resolution in October 1997 to begin the development of a coordinated fishery-independent sampling program in the Northeast. The program began in 2006 with a pilot study and instituted a spring and fall survey in 2008. The surveys target both juvenile and adult fishes, including croaker.

VI. Status of Management Measures and Issues

Fishery Management Plan

Amendment 1 was fully implemented by January 1, 2006, and provided the management plan for the 2009 fishing year. There are no interstate regulatory requirements for Atlantic croaker. Should regulatory requirements be implemented in the future, all state programs must include law enforcement capabilities adequate for successfully implementing the regulations. Addendum I to Amendment 1 was initiated in August 2010 and approved in March 2011, in order to 1) revise the biological reference points to be ratio-based, and 2) remove the distinction of two regions within the management unit, based on the results of the 2010 stock assessment. Addendum II was approved August 2014 and established the TLA management framework for Atlantic croaker in order to better illustrate long-term trends in the fishery.

Traffic Light Approach

Addendum II established the TLA as the new management framework for Atlantic croaker. Under this management program, if thresholds for both population characteristics (harvest and adult abundance) achieve or exceed the proportion of threshold for the specified three year period, management action will be taken.

Analysis of the harvest composite index for 2014 shows that the population characteristic tripped for a second year in a row (Figure 6). The mean proportion of red color from 2012-2014 was 44.5%, well above the 30% threshold. The harvest composite index was comprised of commercial and recreational landings. Both commercial and recreational indices would have individually tripped in 2014 at the 30% level. The TLA for commercial landings was above the 60% threshold for the second year in a row.

The abundance composite TLA index was broken into two components based age composition. The adult composite index was generated from the NMFS and SEAMAP surveys since the majority of Atlantic croaker captured in those surveys were ages 1+. The juvenile composite index was generated from the NC Program 195 and VIMS surveys because these two captured primarily young-of-the-year Atlantic croaker.

All four composite abundance indices showed declines in 2014 with red occurring in all but one (NC 195) of the TLA indices. The adult composite TLA characteristic (Figure 7) did not trigger in 2014 with only a 14.2% red proportion and no red in the two previous years. The juvenile composite characteristic index (Figure 8) also did not trip in 2014; however, this is due to high index values in 2012 and 2013. In 2014, the juvenile composite index had a red proportion above the 30% threshold which was due to a precipitous drop in the VIMS index. The higher annual variability for the different color proportions in the juvenile composite characteristic (compared to the adult composite characteristic) is likely a reflection annual recruitment variability rather than population trends.

Overall, management measures were not tripped in 2014 since both population characteristics (harvest and abundance) were not above the 30% threshold for the 2012-2014 time period. Nonetheless, the analysis shows that there are declining trends in the fishery independent indices as well as the commercial and recreational harvests of Atlantic croaker.

De Minimis Requests

States are permitted to request *de minimis* status if, for the preceding three years for which data are available, their average commercial landings or recreational landings (by weight) constitute less than 1% of the coastwide commercial or recreational landings for the same three year period. A state may qualify for *de minimis* in either its recreational or commercial sector, or both, but will only qualify for exemptions in the sector(s) that they qualify for as *de minimis*. Amendment 1 does not include any compliance requirements other than annual state reporting, which is still required of *de minimis* states. Thus, *de minimis* status does not exempt states from any measures.

In the annual compliance reports, the following states requested *de minimis* status: Delaware (commercial fishery), South Carolina (commercial fishery), Georgia (commercial and recreational fisheries), and Florida (commercial fishery). The commercial and recreational *de minimis* criteria for 2014 are based on 1% of the average coastwide 2012-2014 landings in each fishery: 95,623 pounds for the commercial fishery and 33,345 pounds for the recreational fishery. The Delaware commercial fishery qualifies for *de minimis* status with an average of 6,368 pounds. The South Carolina commercial fishery qualifies for *de minimis* status with an average of 104 pounds. The Georgia commercial and recreational fisheries qualify for *de minimis* status with averages of less than 1,000 pounds (confidential) and 21,182 pounds, respectively. The Florida commercial fishery qualifies for *de minimis* status with an average of 63,637 pounds.

Changes to State Regulations

In 2014, Georgia removed their 8 inch size limit from regulations for the recreational fishery (DNR Rule 391-2-4-.04). The size limit was originally put in to place in 1989 as an anticipatory measure to changes that were expected to be established through interstate fishery management. Since such changes were proposed in the past 25 years, Georgia removed the size limit.

In 2014, the South Carolina Legislature enacted a law that included Atlantic croaker under an aggregate bag limit (50 fish per person per day) as part of a small *Sciaenidae* group that includes Atlantic croaker, spot, and kingfish.

Atlantic Croaker Habitat

The ASMFC Habitat Committee is currently preparing a Sciaenid Habitat Source Document which outlines the habitat needs of Atlantic croaker at different life stages (egg, larval, juvenile, and adult). The report also highlights threats and uncertainties facing these ecological areas and identifies Habitat Areas of Particular Concern. It is expected that the Sciaenid Habitat Source Document will be available by the end of 2015.

Bycatch Reduction

Atlantic croaker is subject to both direct and indirect fishing mortality. Historically, croaker ranked as one of the most abundant species in the bycatch of the south Atlantic shrimp trawl fishery. As a result, the original FMP recommended that bycatch reduction devices (BRDs) be developed and required in the shrimp trawl fishery. Since then the states of North Carolina through Florida have all enacted requirements for the use of BRDs in shrimp trawl nets in state waters, and croaker bycatch from this fishery has been reduced (ASMFC 2010). However, monitoring of bycatch and discards from this fishery is inadequate and results in the major source of uncertainty for assessing this stock, as well as other important Mid- and South Atlantic species. Most of the discarded

croakers are age-0 and thus likely have not yet reached maturity (ASMFC 2010). The North Carolina Department of Marine Fisheries secured funding for a two-year study, beginning in 2012, to collect bycatch data from state shrimp trawlers. It is expected that the report will come out in the fall of 2015. These data will be valuable for incorporating estimates of removals in the next stock assessment.

Atlantic croaker are also discarded from other commercial fishing gears. This is primarily due to market pressures and few restrictions on croaker harvest at the state level. The NMFS Pelagic Observer Program provides data to estimate these discards for use in assessments; however, the time series is limited and only discards from gill nets and otter trawls could be estimated for the last assessment based on the available data. Since 1988, estimated discards have fluctuated between 94 and 15,176 mt without trend, averaging 2,503 mt (ASMFC 2010).

Atlantic croaker has also been a major component of the scrap/bait fishery. Landings from this fishery are not reported to the species level, except for North Carolina, which has a continuous program in place to sample the landings and enables estimating scrap landings of croaker for use in the stock assessment. As part of the 2010 stock assessment, North Carolina estimated the scrap/bait landings, which have declined in recent years, from a high of 1,569 mt in 1989 to a low of 84 mt in 2008, primarily due to restrictions placed on the fisheries that produced the highest scrap/bait landings (ASMFC 2010). Several of the regulations instituted by North Carolina include a ban on flynet fishing south of Cape Hatteras, incidental finfish limits for shrimp and crab trawls in inside waters, minimum mesh size restrictions in trawls, and culling panels in long haul seines.

South Carolina has also begun a state monitoring program to account for scrap landings. The state initiated a bait harvester trip ticket program for all commercial bait harvesters licensed in SC. The impetus for this program is to track bait usage of small sciaenid species (croaker, spot, and whiting) as well as other important bait species. This program should be useful for future stock assessments.

Several states have implemented other commercial gear requirements that further reduce bycatch and bycatch mortality, while others continue to encourage the use of these BRD devices. NOAA Fisheries published a notice on June 24, 2011 for public scoping in the Federal Register to expand the methods for reducing bycatch interactions with sea turtles, which may have additional effects on the bycatch of finfish like Atlantic croaker in trawls (76 FR 37050). Continuing to reduce the quantity of sub-adult croaker harvested should increase spawning stock biomass and yield per recruit.

Atlantic croaker are also subject to recreational discarding. The number of Atlantic croaker released alive by recreational anglers has generally increased over time. Ten percent of croakers released alive were estimated to die as a result of being discarded for the last stock assessment (ASMFC 2010). The use of circle hooks and appropriate handling techniques can help to reduce mortality of released fish.

VII. Implementation of FMP Compliance Requirements for 2014

The PRT finds that all states have fulfilled the requirements of Amendment 1.

VIII. Recommendations

Management and Regulatory Recommendations

- Encourage the use of circle hooks to minimize recreational discard mortality.
- Consider approval of the *de minimis* requests from Delaware, South Carolina, Georgia, and Florida.
- Consider the basic research and monitoring information needed for informed management in light of the budgetary constraints limiting all state governments

Research and Monitoring Recommendations

<u>High Priority</u>

- Develop and implement compatible and coordinated sampling programs for the South Atlantic shrimp trawl fishery in order to monitor and characterize Atlantic croaker bycatch in this fishery.
- Continue fisheries-independent surveys throughout the species range, with increased focus on collecting subsamples in the southern range
- Encourage fishery-dependent biological sampling, with increased focus in the southern range and expanding the commercial and recreational fishery samples to afford a full age-length key
- Determine migratory patterns and mixing rates through cooperative, multi-jurisdictional tagging studies; further studies on relative degree of genetic separation between fish in the northern and southern range of species; and continue research and analysis of otolith microchemistry data.
- Collect bio-profile information and conduct studies on growth rates, age structure, estimates of fecundity, and maturity schedule throughout the species range with a standardized protocol.
- Evaluate bycatch and discard estimates from commercial and recreational fisheries, and extend coverage of scrap fishery sampling to other states.
- Develop fishery-independent size, age, and sex specific relative abundance estimates to monitor long-term changes in croaker abundance.
- Maintain funding for current surveys and monitoring to provide needed information for stock monitoring and assessment

<u>Medium Priority</u>

- Develop age-size data that are representative of all seasons and areas in the fisheries on an annual basis.
- Improve catch and effort statistics from the commercial and recreational fisheries and develop more rigorous methods to standardize catch-per-unit-effort.
- Collect data on fishing attributes necessary to develop gear-type-specific fishing effort estimates.
- Evaluate commercial and recreational mortality under varying environmental factors and fishery practices and include in updated assessment.
- Update studies on the effectiveness of bycatch reduction devices (BRDs) in reducing croaker bycatch.
- Validate otolith aging methods with appropriate methods, e.g., tagging, chemical marking.
- Evaluate the optimum utilization (economic and biological) of a long-term fluctuating population such as croaker.

- Identify essential habitat requirements.
- Determine species interactions and predator/prey relationships for croaker (prey) and other more highly valued fisheries (predators).
- Determine the impacts of any dredging activity (i.e. for beach re-nourishment) on all life history stages of croaker.
- Investigate environmental covariates in stock assessment models.
- Examine socio-economic aspects of the fishery.
- Re-examine historical ichthyoplankton studies of the Chesapeake Bay for an indication of the magnitude of estuarine spawning.

IX. References

Atlantic States Marine Fisheries Commission (ASMFC). 1987. Fishery Management Plan for Atlantic Croaker. Washington (DC): ASMFC. Fishery Management Report No. 10. 90 p.

ASMFC. 2005a. Atlantic Croaker Stock Assessment & Peer Review Reports. Washington (DC): ASMFC. 370 p.

ASMFC. 2005b. Amendment 1 to the Interstate Fishery Management Plan for Atlantic Croaker. Washington (DC): ASMFC. Fishery Management Report No. 44. 92 p.

ASMFC. 2010. Atlantic Croaker 2010 Benchmark Stock Assessment. Washington (DC): ASMFC. 366 p.

X. Figures

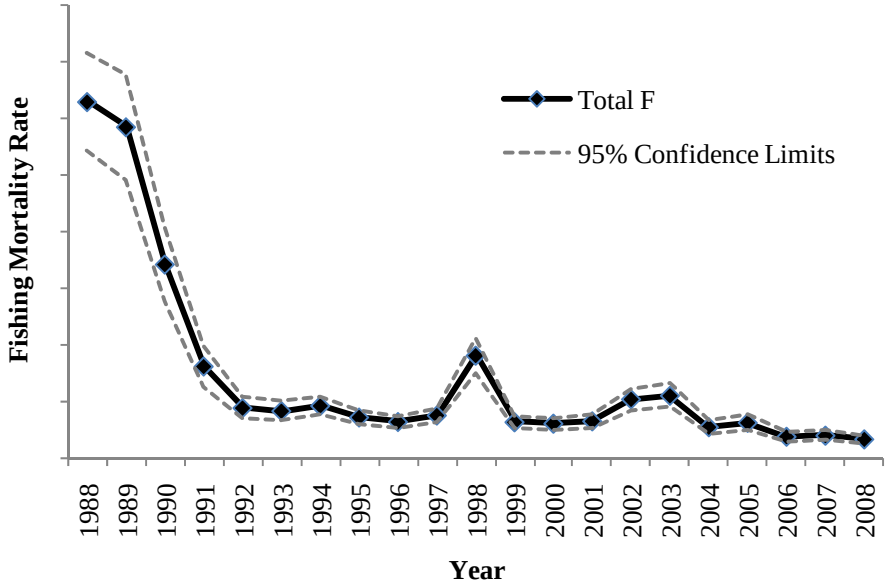


Figure 1. Trend in estimated total fishing mortality rate (F) of Atlantic croaker
(Absolute estimates of F are unreliable because of uncertainty regarding the estimation of Atlantic croaker discards in the shrimp trawl fishery, and the application of estimates in modeling. Source: ASMFC 2010.)

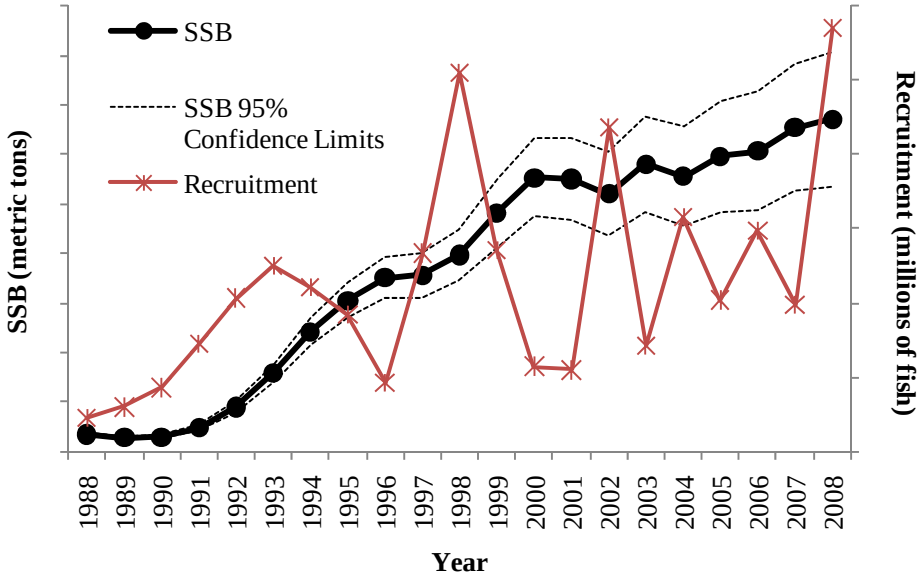


Figure 2. Trends in estimated spawning stock biomass (SSB, metric tons) and age-1 recruitment (numbers of fish) of Atlantic croaker
(Absolute estimates of stock size are unreliable because of uncertainty regarding the estimation of Atlantic croaker discards in the shrimp trawl fishery, and the application of estimates in modeling. Source: ASMFC 2010.)

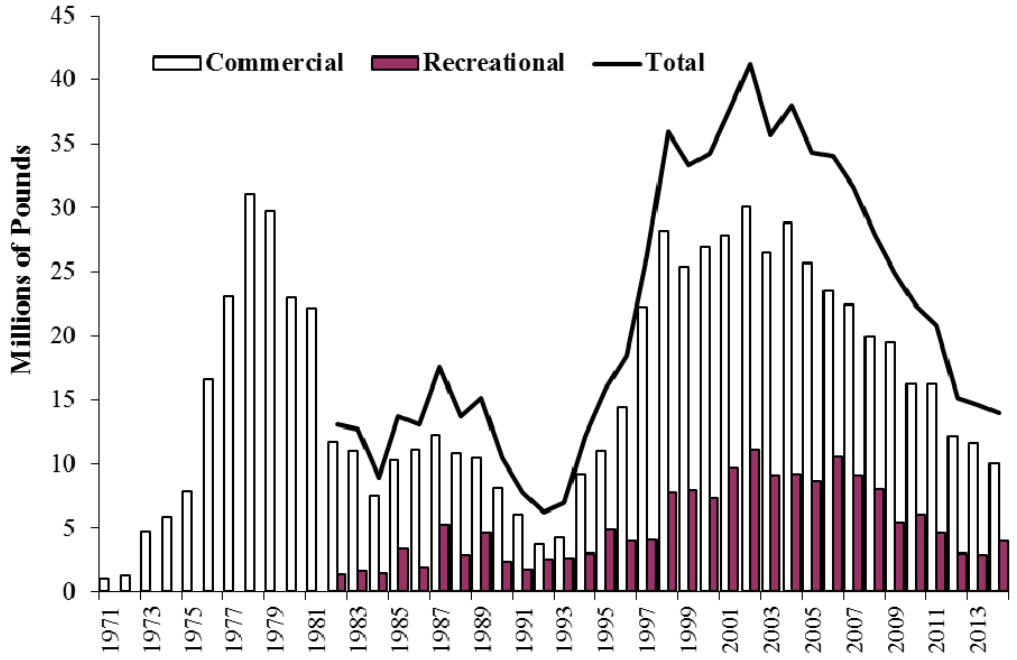


Figure 3. Atlantic croaker commercial, recreational, and total landings (pounds)
(See Tables 2 and 3 for values and source information. Commercial landings estimate for 2014 is preliminary. Reliable recreational landings estimates are not available before 1981.)

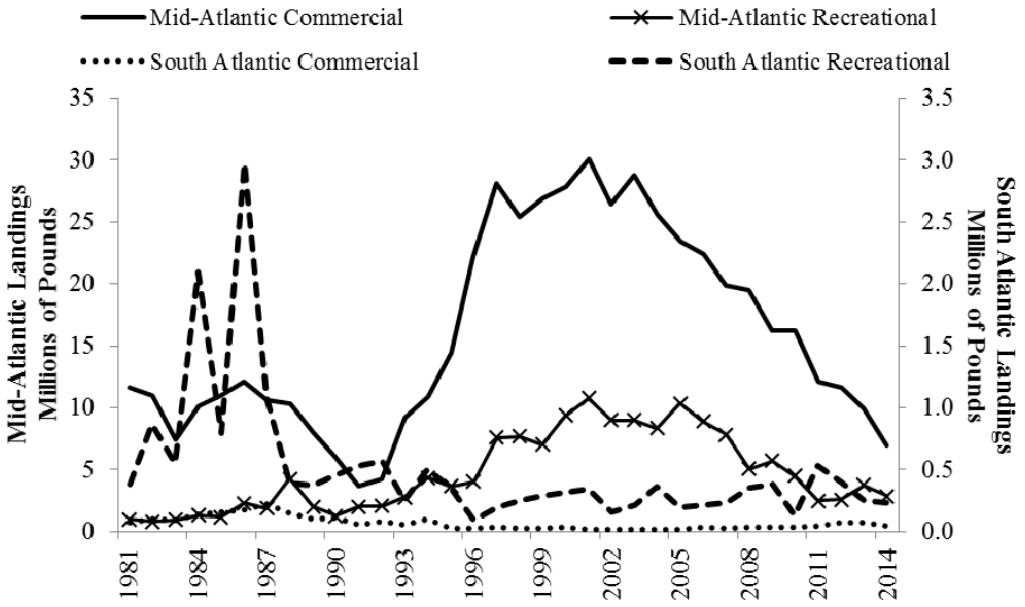


Figure 4. Mid-Atlantic (NJ-NC) and South Atlantic (SC-FL) landings (pounds)
(See Tables 2 and 3 for values and source information.)

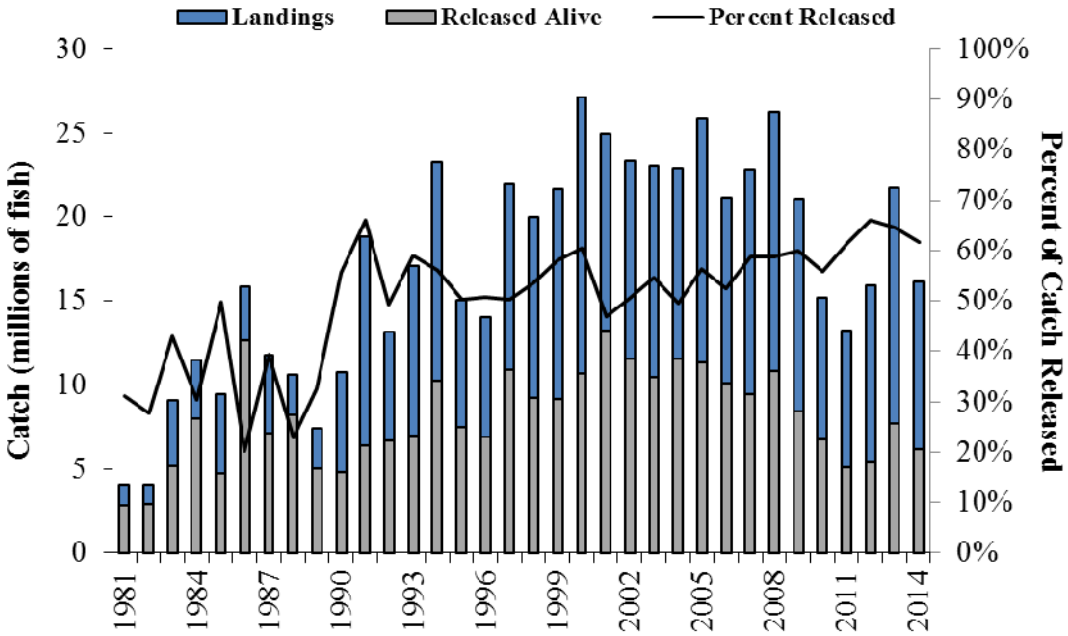


Figure 5. Recreational catch (landings and alive releases, in numbers) and the percent of catch that is released, 1981-2014
(See Tables 4 and 5 for values and source information.)

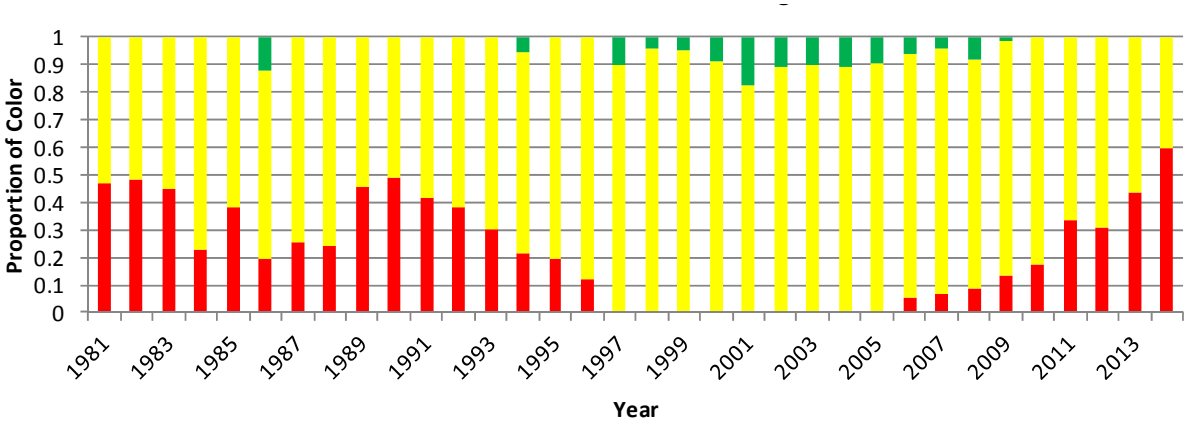


Figure 6. Annual color proportions for the harvest composite TLA of Atlantic croaker recreational and commercial landings.

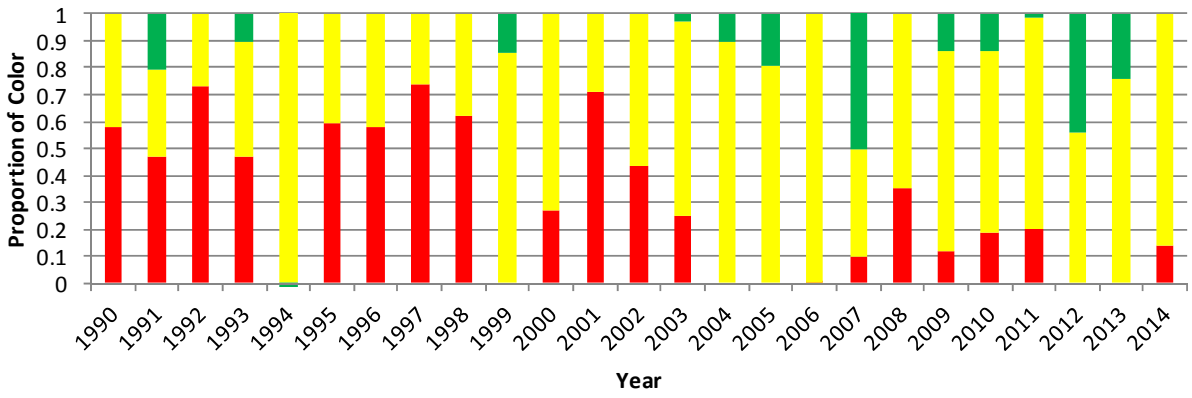


Figure 7. Adult croaker TLA composite characteristic index (NMFS and SEAMAP surveys).

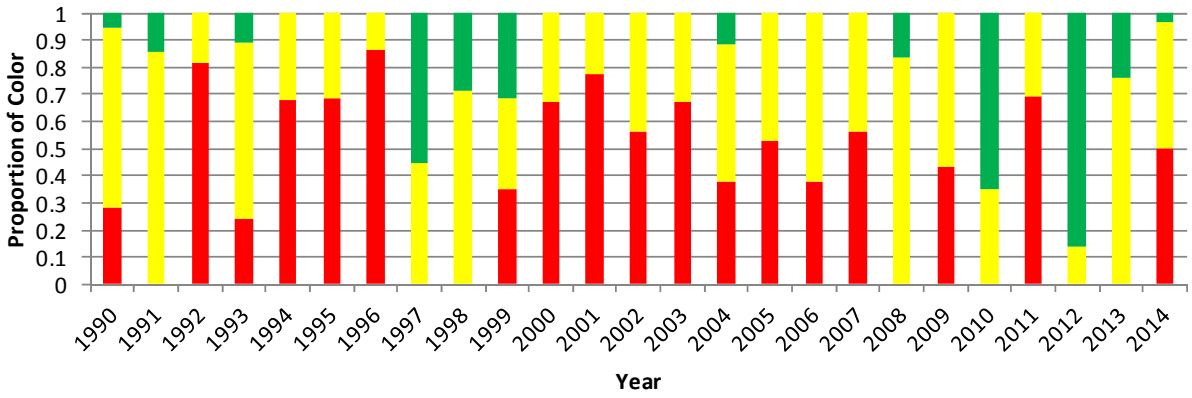


Figure 8. Juvenile croaker TLA composite characteristic index (NC 195 and VIMS surveys).

XI. Tables

Table 1. Summary of state regulations for Atlantic croaker in 2013*

State	Recreational	Commercial
NJ	none	otter/beam trawl mesh restriction for directed croaker harvest (>100 lbs in possession)
DE	8" minimum; recreational gill nets (up to 200 ft.) with license	8" minimum
MD	9" min, 25 fish/day, charter boat logbooks	9" minimum; open 3/16 to 12/31
PRFC	25 fish/day	pound net season: 2/15 to 12/15
VA	none	none
NC	recreational use of commercial gears with license and gear restrictions	
SC	mandatory for-hire logbooks	
GA	25 fish/day	25 fish/day limit except for trawlers harvesting shrimp for human consumption (no limit)
FL	none	none

* A commercial fishing license is required to sell croaker in all states with fisheries. For all states, general gear restrictions affect commercial croaker harvest.

Table 2. Commercial harvest (pounds) of Atlantic croaker by state, 1981-2014
(Estimates for 2014 are preliminary. Sources: state compliance reports; personal communication with ACCSP, Arlington, VA.)

Year	NJ	DE	MD	PRFC	VA	NC	SC	GA	FL	Total
1981	23,500	0	2,104	648	429,800	11,205,342	2,441	1,038	72,112	11,736,985
1982	100	0	7,091	188	119,300	10,824,953	386	2,177	95,357	11,049,552
1983	200	0	417	1,549	150,400	7,249,680	3,200	1,097	81,737	7,488,280
1984	57,700	0	27,072	73,701	817,700	9,170,775	3,793	434	131,375	10,282,550
1985	48,800	100	9,510	19,854	2,171,821	8,714,432	1,256		153,803	11,119,576
1986	106,000	500	135,922	99,373	2,367,000	9,424,828	924		173,531	12,308,078
1987	357,600	800	119,409	102,691	2,719,500	7,289,191	698	553	217,932	10,808,374
1988	30,100	200	98,855	12,796	1,749,200	8,434,415	2,614	304	140,033	10,468,517
1989	137,100	0	89,173	5,579	949,649	6,824,088	1,950		95,021	8,102,560
1990	644	42	2,473	5,115	201,353	5,769,512	1,190		104,402	6,084,731
1991	31,292	700	6,183	996	164,126	3,436,960	*		56,739	3,696,996
1992	51,600	800	17,050	17,692	1,339,353	2,796,612			79,040	4,302,147
1993	183,414	2,500	114,159	262,482	5,326,293	3,267,652	*		52,031	9,208,531
1994	117,256	3,000	158,918	240,271	5,759,975	4,615,754	*		96,018	10,991,192
1995	334,654	13,000	489,506	606,184	6,949,639	6,021,284	*		22,879	14,437,146
1996	621,889	9,681	792,326	1,427,285	9,409,904	9,961,834			26,045	22,248,964
1997	1,994,446	10,509	1,088,969	1,518,196	12,832,221	10,711,667	*		36,577	28,192,585
1998	1,029,332	10,368	1,006,529	610,885	11,898,586	10,865,897			26,418	25,448,015
1999	2,071,046	14,729	948,191	1,190,138	12,481,326	10,185,507			26,824	26,917,761
2000	2,130,465	11,121	902,379	1,812,130	12,822,400	10,122,627			37,953	27,839,075
2001	1,389,837	22,736	1,488,815	1,963,294	13,214,731	12,017,424		*	14,831	30,111,668
2002	1,828,484	10,732	894,879	1,421,094	12,133,834	10,189,153	*	*	17,191	26,495,367
2003	1,575,738	16,561	713,205	1,128,003	10,937,167	14,429,197	140	*	16,348	28,816,359
2004	2,067,992	30,369	1,354,982	1,631,596	8,550,574	11,993,003	*	*	11,413	25,639,929
2005	1,847,753	36,624	972,800	481,912	8,211,802	11,903,292	41	*	16,520	23,470,744
2006	1,617,144	19,307	466,833	670,276	9,252,110	10,396,554	160	*	30,272	22,452,656
2007	1,358,000	13,522	474,388	188,567	10,557,370	7,301,295	*		27,028	19,920,170
2008	946,062	10,465	592,211	337,062	11,796,771	5,791,874	116	*	31,560	19,506,121
2009	585,552	16,341	433,238	234,101	8,808,677	6,135,427	215	0	32,313	16,245,864
2010	342,116	6,182	490,067	162,571	7,879,847	7,312,159	3	0	36,960	16,229,905
2011	465,117	12,252	736,259	243,196	5,611,855	5,054,186	44	*	44,932	12,167,841
2012	363,381	2,811	901,455	273,849	6,963,815	3,106,616	62	*	74,023	11,686,012
2013	337,313	6,700	884,363	130,285	6,621,836	1,928,637	2	0	71,573	9,980,709
2014	271,706	9,647	478,674	177,777	3,406,958	2,629,793	247	0	45,314	7,020,116

* confidential data

Table 3. Recreational harvest (pounds) of Atlantic croaker by state, 1981-2014
(Source: personal communication with NMFS Fisheries Statistics Division, Silver Spring, MD.)

Year	NJ	DE	MD	VA	NC	SC	GA	FL	Total
1981	582	2,317		535,297	426,240	67,284	9,665	305,547	1,346,932
1982			70,276	455,250	264,607	67,015	45,161	754,956	1,657,265
1983			32,053	486,006	395,402	14,158	25,412	510,599	1,463,630
1984			86,462	634,870	584,660	161,661	80,684	1,856,599	3,404,936
1985			17,169	843,414	278,214	72,780	40,421	684,449	1,936,447
1986		2,595	116,542	2,034,337	126,888	173,028	21,504	2,783,651	5,258,545
1987			191,628	1,306,814	352,346	64,696	14,947	1,005,053	2,935,484
1988		827	926,399	2,390,573	935,460	54,313	20,313	316,900	4,644,785
1989		284	19,189	1,329,680	658,567	80,580	21,138	268,335	2,377,773
1990		112	37,873	875,427	347,183	123,795	205,352	127,525	1,717,267
1991	4,264	10,972	117,210	1,728,021	157,660	16,173	54,116	460,453	2,548,869
1992		3,291	53,556	1,768,962	233,533	28,512	132,596	407,672	2,628,122
1993	844	9,641	476,866	1,993,915	282,910	18,005	55,604	180,517	3,018,302
1994	818	2,892	991,166	3,024,118	351,230	128,306	34,048	337,474	4,870,052
1995	9,515	82,864	567,149	2,675,381	326,135	25,386	20,862	301,918	4,009,210
1996	39,099	205,526	702,037	2,716,759	346,501	14,480	21,797	50,038	4,096,237
1997	278,758	340,198	1,117,999	5,522,195	309,457	53,863	26,272	113,096	7,761,838
1998	135,733	293,560	1,150,459	5,920,436	161,117	76,821	30,966	141,756	7,910,848
1999	301,957	522,201	1,024,398	4,969,283	212,991	26,356	32,375	231,692	7,321,253
2000	1,125,730	483,963	2,672,996	4,888,910	201,306	13,457	62,390	242,912	9,691,664
2001	1,132,214	304,127	1,278,699	7,674,759	355,009	10,750	7,844	320,487	11,083,889
2002	268,423	250,899	1,162,278	7,075,130	242,184	29,343	10,622	117,880	9,156,759
2003	682,698	262,114	2,069,176	5,674,111	317,606	59,399	71,881	79,396	9,216,381
2004	1,151,926	342,335	1,016,801	5,792,487	267,455	53,563	15,554	179,018	8,819,139
2005	1,189,849	846,084	942,702	7,240,971	143,963	42,088	14,709	147,117	10,567,483
2006	765,867	757,082	884,082	6,460,336	151,403	19,010	9,236	176,886	9,223,902
2007	409,392	334,850	1,056,471	6,111,612	87,013	39,368	14,106	207,821	8,260,633
2008	422,833	266,787	458,671	3,612,065	154,937	15,753	12,653	340,304	5,284,003
2009	114,015	240,468	1,504,806	3,915,033	131,742	72,363	32,746	222,239	6,233,412
2010	36,063	41,533	976,143	3,394,913	241,993	11,971	10,205	56,022	4,768,843
2011	21,460	52,889	444,595	1,761,731	99,298	240,665	21,548	194,847	2,837,033
2012	96,366	63,037	535,325	1,898,966	105,530	12,291	13,503	292,365	3,017,383
2013	533,822	100,320	744,642	2,217,664	141,880	29,610	17,209	205,970	3,991,117
2014	206,339	180,787	610,667	1,602,504	227,826	33,363	32,833	165,353	3,059,672

Table 4. Recreational harvest (numbers) of Atlantic croaker by state, 1981-2014
(Source: personal communication with NMFS Fisheries Statistics Division, Silver Spring, MD.)

Year	NJ	DE	MD	VA	NC	SC	GA	FL	Total
1981	1,054	3,003	0	964,013	1,043,240	165,742	35,591	598,896	2,811,539
1982			10,452	273,039	596,493	193,554	169,749	1,682,619	2,925,906
1983			108,355	2,154,133	1,620,909	60,811	75,173	1,148,227	5,167,608
1984			211,035	2,047,720	2,147,871	588,114	202,364	2,781,742	7,978,846
1985			21,276	2,284,334	723,933	260,265	144,341	1,306,955	4,741,104
1986		4,694	123,578	6,384,966	356,742	599,442	69,887	5,118,552	12,657,861
1987	0	0	208,488	3,234,224	904,030	166,978	44,783	2,580,727	7,139,230
1988		1,186	1,005,452	4,048,690	2,256,128	144,057	64,093	685,778	8,205,384
1989		478	22,871	2,203,504	2,131,763	217,023	72,598	359,417	5,007,654
1990		281	100,673	2,374,679	1,063,452	346,631	585,380	304,064	4,775,160
1991	16,235	37,500	288,471	4,298,542	434,067	100,816	184,435	1,030,115	6,390,181
1992	0	9,854	117,427	4,524,040	723,823	74,051	440,185	754,595	6,643,975
1993	2,552	19,352	805,560	4,990,098	755,998	32,700	89,734	304,067	7,000,061
1994	1,567	5,718	1,633,581	6,494,691	1,179,735	188,520	102,974	599,032	10,205,818
1995	15,184	136,865	827,183	5,029,708	850,606	75,422	100,826	438,076	7,473,870
1996	35,037	235,389	775,115	4,997,021	662,240	37,464	61,957	116,575	6,920,798
1997	342,089	385,586	1,053,232	8,066,926	661,116	118,428	64,050	235,430	10,926,857
1998	143,404	391,231	1,126,058	6,730,181	387,427	170,528	64,953	234,360	9,248,142
1999	357,261	662,724	1,209,572	5,881,671	442,185	54,761	104,438	403,982	9,116,594
2000	1,023,442	517,886	2,674,880	5,486,159	391,056	32,332	128,922	455,870	10,710,547
2001	1,177,813	312,005	1,319,928	9,335,313	635,552	19,802	21,503	426,264	13,248,180
2002	253,472	261,634	1,223,385	9,129,060	408,944	66,409	36,497	177,751	11,557,152
2003	692,391	341,174	1,619,766	6,695,192	490,399	198,339	248,853	165,459	10,451,573
2004	855,927	389,218	896,855	8,259,608	511,418	171,544	38,599	415,570	11,538,739
2005	1,227,349	825,267	784,246	7,657,147	326,777	143,387	39,561	302,784	11,306,518
2006	511,220	763,216	754,969	7,221,148	556,024	58,500	34,081	172,586	10,071,744
2007	406,238	359,064	872,838	6,944,886	461,162	38,147	45,068	310,130	9,437,533
2008	600,975	368,911	619,942	8,388,497	317,940	65,853	38,246	449,054	10,849,418
2009	193,464	451,849	1,335,439	5,327,388	368,990	238,900	82,269	438,209	8,436,508
2010	63,027	75,404	1,136,589	4,743,697	478,156	46,464	35,635	132,664	6,711,636
2011	40,855	92,289	554,206	3,305,707	246,676	349,464	44,044	476,292	5,109,533
2012	237,994	84,403	701,482	3,445,232	288,812	27,541	38,402	589,643	5,413,509
2013	875,200	222,401	1,155,538	4,273,744	411,882	99,356	54,915	586,411	7,679,447
2014	266,664	359,010	1,085,339	3,429,768	541,474	146,430	64,138	298,332	6,191,145

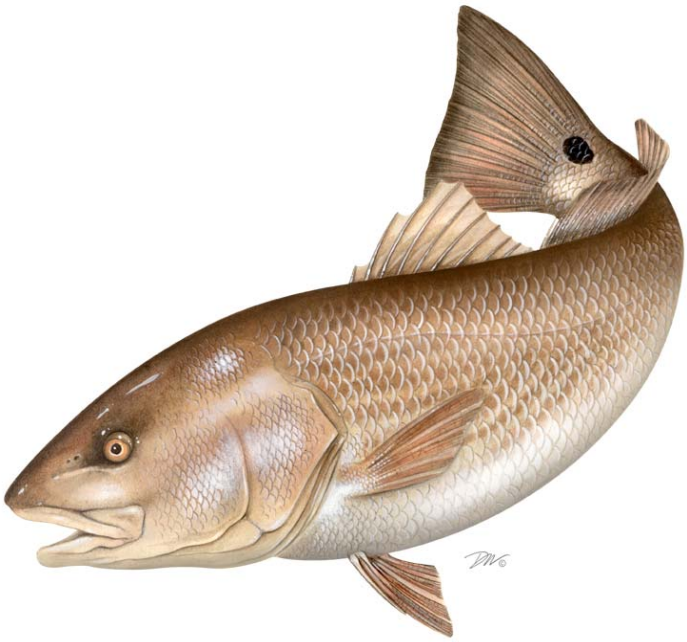
Table 5. Recreational releases (number) of Atlantic croaker by state, 1981-2014
(Source: personal communication with NMFS Fisheries Statistics Division, Silver Spring, MD.)

Year	NJ	DE	MD	VA	NC	SC	GA	FL	Total
1981			16,233	324,238	704,259	128,192	13,481	85,740	1,272,143
1982				77,756	641,327	107,340	111,630	188,277	1,126,330
1983			1,507,184	1,410,151	424,562	119,036	70,499	379,021	3,910,453
1984			70,192	673,080	1,701,418	746,905	37,573	236,432	3,465,600
1985			13,132	1,616,052	1,596,901	238,678	66,649	1,146,582	4,677,994
1986		1,757	43,399	2,578,268	137,841	84,335	40,623	318,511	3,204,734
1987	1,374	861	32,074	2,056,580	560,853	108,366	76,908	1,770,697	4,607,713
1988		582	273,231	832,284	984,219	112,271	20,021	200,630	2,423,238
1989		1,307	41,822	1,342,169	891,926	58,642	17,632	72,822	2,426,320
1990		1,268	88,688	3,922,564	1,351,152	111,085	317,497	168,144	5,960,398
1991	91,633	75,319	3,352,190	7,418,045	669,385	25,168	140,402	647,824	12,419,966
1992	4,103	43,583	856,292	4,167,137	954,494	26,729	178,267	251,343	6,481,948
1993	5,799	13,194	2,504,362	5,795,479	1,499,217	16,949	83,203	138,875	10,057,078
1994	17,253	14,069	1,628,824	7,676,780	3,110,528	141,513	99,026	331,736	13,019,729
1995	31,019	41,574	496,046	5,494,289	1,172,716	108,345	89,609	141,732	7,575,330
1996	17,585	76,851	403,776	5,151,206	1,218,799	64,494	60,282	126,300	7,119,293
1997	111,468	384,233	1,497,670	7,275,160	1,443,568	138,107	25,630	116,276	10,992,112
1998	221,324	839,932	3,021,780	4,990,541	1,060,928	266,068	159,928	152,744	10,713,245
1999	860,325	1,017,499	2,483,800	5,668,925	1,368,478	116,826	57,567	967,894	12,541,314
2000	688,746	694,813	4,967,856	7,811,048	1,569,385	96,402	169,903	428,131	16,426,284
2001	853,621	285,123	1,585,806	7,086,706	1,256,807	115,284	192,362	282,461	11,658,170
2002	369,003	361,355	2,523,276	7,107,656	925,806	92,498	194,474	217,054	11,791,122
2003	833,508	654,697	1,393,224	6,543,524	1,552,315	440,446	965,496	192,356	12,575,566
2004	1,237,164	599,207	854,132	6,276,767	1,656,049	320,788	154,259	253,951	11,352,317
2005	1,692,401	674,684	1,136,876	8,738,109	1,401,413	321,861	280,889	293,692	14,539,925
2006	503,490	937,193	1,783,557	4,193,675	2,578,819	595,075	283,851	187,562	11,063,222
2007	590,078	672,771	1,258,131	8,504,212	1,608,120	224,454	228,564	321,559	13,407,889
2008	2,373,945	601,994	2,127,219	7,806,627	1,419,019	205,373	293,926	596,450	15,424,553
2009	108,370	537,587	1,137,578	7,621,484	1,912,670	514,839	434,608	406,822	12,673,958
2010	167,191	228,936	1,011,236	4,824,151	1,598,139	187,138	263,987	188,637	8,469,415
2011	62,391	88,524	365,716	4,872,928	1,798,230	240,605	262,493	452,669	8,143,556
2012	1,134,778	444,935	1,578,524	5,091,063	1,255,215	216,420	167,488	641,569	10,529,992
2013	765,652	764,045	2,905,537	5,968,340	1,984,701	793,500	298,409	550,130	14,030,314
2014	206,098	630,964	1,148867	3,606,078	2,714,578	763,159	470,751	393,360	9,933,855

2015 REVIEW OF THE ATLANTIC STATES MARINE FISHERIES COMMISSION FISHERY MANAGEMENT PLAN FOR

RED DRUM (*Sciaenops ocellatus*)

2014 FISHING YEAR



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I. Status of the Fishery Management Plan

Date of FMP Approval:	Original FMP – October 1984
Amendments:	Amendment 1 – October 1991 Amendment 2 – June 2002 Addendum 1 – August 2013
Management Areas:	The Atlantic coast distribution of the resource from New Jersey through Florida Northern: New Jersey through North Carolina Southern: South Carolina through the east coast of Florida
Active Boards/Committees:	South Atlantic State/Federal Fisheries Management Board; Red Drum Technical Committee, Stock Assessment Subcommittee, Plan Development Team, Plan Review Team, Stock Enhancement Subcommittee; South Atlantic Species Advisory Panel

The Atlantic States Marine Fisheries Commission (ASMFC) adopted an interstate Fishery Management Plan (FMP) for Red Drum in 1984. The original management unit included the states from Florida to Maryland. In 1988, the Interstate Fisheries Management Program (ISFMP) Policy Board requested that all states from Florida to Maine implement the plan's recommended management regulations to prevent development of northern markets for southern fish. All Atlantic coastal states Florida through New Jersey are now required to implement the provisions of the FMP, while New York through Maine (including Pennsylvania) are encouraged to implement consistent provisions to protect the red drum spawning stock.

In 1990, the South Atlantic Fishery Management Council (Council) adopted an FMP for red drum that defined overfishing and optimum yield (OY) consistent with the Magnuson Fishery Conservation and Management Act of 1976. Adoption of this plan prohibited the harvest of red drum in the exclusive economic zone (EEZ), a moratorium that remains in effect today. Recognizing that all harvest would take place in state waters, the Council FMP recommended that states implement measures necessary to provide the target level of at least 30% escapement.

Consequently, the ASMFC updated the interstate FMP in 1991 with Amendment 1, which included the goal to attain optimum yield from the fishery over time. Optimum yield was defined as the amount of harvest that could be taken while maintaining the spawning stock biomass per recruit (SSBR) level at or above 30% of the level that would result if fishing mortality were zero. However, the lack of adequate information on the status of the adult stock resulted in the use of a 30% escapement rate of sub-adult red drum to the off-shore adult spawning stock.

Substantial reductions in fishing mortality were necessary to achieve the escapement rate; however, because of a lack of data on the status of adult red drum along the Atlantic coast, a phase-in approach with a 10% SSBR goal was adopted. States were recommended to implement or maintain harvest controls necessary to attain the goal. All states in the management unit north of Florida modified regulations and/or commercial quotas to reach this goal. Florida maintained its strict regulations that were thought to exceed the target escapement rate. The harvest regulations

remained unchanged from 1992-1998, except in Florida where regulations were relaxed somewhat by opening the previously closed March-May period.

As hoped, these management measures led to increased escapement rates of juvenile red drum. Escapement estimates for a northern region from New Jersey through North Carolina (18%) and a southern region from South Carolina through the east coast of Florida (17%) were estimated to be above the 10% phase-in goal, yet still below the ultimate goal of 30% (Vaughan and Carmichael 2000). These regions were based on stock identity, mark-recapture experiments, life history, habitat preferences, human dimensions of the fisheries, and management goals. North Carolina, South Carolina, and Georgia implemented substantive changes to their regulations from 1998-2001 that further restricted the harvest of red drum.

The Council adopted new definitions of OY and overfishing for red drum in 1998. Optimum yield was redefined as the harvest associated with a 40% static spawning potential ratio (sSPR), overfishing as an sSPR less than 30%, and threshold overfishing as 10% sSPR. A year later, the Council also recommended that management authority for red drum be transferred to the states through the Commission's Interstate Fishery Management Program (ISFMP) process. One reason the Council recommended this transfer to the ASMFC was the inability to accurately determine an overfished status and therefore stock rebuilding targets and schedules as required under the revised Sustainable Fisheries Act of 1996. The management transfer would necessitate the development of an amendment to the interstate FMP, in order to include the provisions of the Atlantic Coastal Fisheries Cooperative Management Act.

The ASFMC adopted Amendment 2 to the Red Drum FMP in June 2002 (ASMFC 2002), which serves as the current management plan. The goal of Amendment 2 is to achieve and maintain the OY for the Atlantic coast red drum fishery as the amount of harvest that can be taken by U.S. fishermen while maintaining the sSPR at or above 40%. There are four plan objectives:

- Achieve and maintain an escapement rate sufficient to prevent recruitment failure and achieve an sSPR at or above 40%.
- Provide a flexible management system to address incompatibility and inconsistency among state and federal regulations which minimizes regulatory delay while retaining substantial ASMFC, Council, and public input into management decisions; and which can adapt to changes in resource abundance, new scientific information, and changes in fishing patterns among user groups or by area.
- Promote cooperative collection of biological, economic, and sociological data required to effectively monitor and assess the status of the red drum resource and evaluate management efforts.
- To restore the age and size structure of the Atlantic coast red drum population.

The management area extends from New Jersey through the east coast of Florida, and is separated into a northern and southern region with the division occurring at the North Carolina/South Carolina border. The sSPR of 40% is considered a target; an sSPR below 30% (threshold level) results in an overfishing determination for red drum.

All states in the management area were required (rather than recommended as in previous versions of the plan) to implement appropriate recreational bag and size limit combinations needed to attain the target sSPR. Amendment 2 also required all states to maintain their current, or implement more restrictive, commercial fishery regulations. The states implemented the provisions of Amendment 2 by January 1, 2003. See Table 1 for state commercial and recreational regulations in 2014.

Following the approval of Amendment 2 in 2002, the process was begun to transfer management authority, including an Environmental Assessment and public comment period. The final rule for the transfer of management authority became effective November 5, 2008. It repeals the federal Atlantic Coast Red Drum Fishery Management Plan and transfers the management authority of Atlantic red drum in the exclusive economic zone from the South Atlantic Fishery Management Council, in cooperation with the Mid-Atlantic Fishery Management Council, under the Magnuson-Stevens Conservation and Management Act to the Atlantic States Marine Fisheries Commission under the Atlantic Coastal Fisheries Cooperative Management Act, as requested by the Councils and the Commission.

Addendum I to Amendment 2 was approved by the Board in August 2013. The Addendum revised Amendment 2's habitat section to include current information on red drum spawning habitat and life-stages (egg, larval, juvenile, sub-adult, and adult). It also identified and described the distribution of key habitats and habitats of concern.

II. Status of the Stocks

At present, only an overfishing status can be determined for red drum (SAFMC 2009). The threshold (below which the stock is experiencing overfishing) and the target fishing mortality rates are those that achieve 30 % and 40 % sSPR, respectively. The three-year average sSPR is compared to these reference points. The stock is assessed by region.

Northern Region

Recruitment (age 1 abundance) has fluctuated widely and without apparent trend since 1989 (Figure 1). Abundance of age 1 – 3 red drum increased during 1990 – 2000 after which it fluctuated widely (Figure 2). The initial increase in abundance of these age groups can be explained by the reduction in exploitation rates in the early part of the time series with relative stability since then (Figure 3).

The trend in the three-year average sSPR indicates low sSPR at the start of the time series with increases during 1990 – 1997 and fluctuations thereafter (Figure 4). The average sSPR has been above the overfishing threshold ($F_{30\%}$) since 1994, and, with the exception of one year (2002), has been at or above the target ($F_{40\%}$) since 1996. Fishing pressure and mortality appear to be stable and holding near the target fishing mortality. There is a high probability that the stock is not subject to overfishing. The average sSPR is also likely above the target benchmark. Fishing mortality could be allowed to increase relative to the overfishing threshold, but the level of risk associated with any increase should be considered and reviewed in conjunction with Amendment 2's goal of maintaining a 40% SPR.

Southern Region

The relative trend in recruitment (age 1 abundance) has fluctuated without apparent trend since 1989 (Figure 1). The relative trend in abundance of age 1 – 3 red drum increased during 1989 – 1992, declined during 1992 – 1998 and has fluctuated thereafter (Figure 2). As with the northern stock, the initial increase in abundance of these age groups can be explained by the reduction in exploitation rates in the early part of the time series. There appears to have been a slight increase in exploitation rates since 1990 (Figure 3). This is reflected in the long-term decline in the three-year average sSPR since 1990 (Figure 4).

There is a high level of uncertainty around the sSPR estimates for the southern region. More work is needed to make definitive statements about sSPR, but it is likely that the average sSPR in 2007 was above the overfishing threshold ($F_{30\%}$), although not above the target as likely in the northern region. The stock is therefore likely not subject to overfishing at this time. Due to the uncertainties, it is not possible to determine status in relation to the target of 40% sSPR.

III. Status of the Fishery

The following discussion utilizes the results from direct queries of the MRIP data through their website. Adjustments needed to make these consistent through time (convert pre-2004 MRFSS data, adjust for changes in for-hire component of survey, and deletion of 1981-85 headboat data) have not been made here.

Total red drum landings from New Jersey through the east coast of Florida in 2014 are estimated at 2.45 million pounds (Tables 2 and 3, Figure 5). This represents a roughly 650,000 lbs decrease from 2013 but is above the previous ten-year (2005-2014) average of 1.89 million lbs. The commercial and recreational fisheries harvested 4% and 96% of the total, respectively. In 2014, 57% of the total landings came from the South Atlantic region, where the fishery is exclusively recreational, and 43% from the Mid-Atlantic region (Figure 6).

Few commercial landings of red drum have been recorded in states north of Maryland in recent years (Table 2). Coastwide commercial landings show no particular temporal trends, ranging from approximately 55,000 to 440,000 pounds annually over the last 50 years (Figure 5). The greatest harvest was taken in 1950, and the lowest in 2004. In 2014, coastwide commercial harvest decreased from 403,889 pounds in 2013 to 102,949 pounds, with 88% coming from North Carolina. Historically, the major commercial harvesters were North Carolina and Florida. However, commercial harvest has been prohibited in Florida under state regulation since January 1988. South Carolina also banned the commercial harvest or sale of native caught red drum beginning in 1987, and in 2013 Georgia designated Red Drum Gamefish status, eliminating the commercial harvest and sale.

In North Carolina, a daily commercial trip limit and an annual cap of 250,000 pounds, with payback of any overage, constrain the commercial harvest. The red drum fishing year in North Carolina extends from September 1 to August 31 (all other states operate on a calendar year). In 2008, the Management Board approved using the fishing year to monitor the cap. During the 2009/2010 fishing year, North Carolina had an overage of 25,858 lbs and set its 2010/2011 fishing cap at 224,142 lbs. North Carolina's harvest for 2010/2011 was 126,185 pounds (2011 calendar

harvest was 91,980 pounds), which corrected the overage. For fishing year 2012/2013, North Carolina's harvest totaled 134,372 pounds. In November 2013, harvest exceeded the 250,000 lbs annual cap for the 2013/2014 fishing year and was closed. The commercial fishery reopened September 2014 and the annual cap for the 2014/2015 season is reduced by the 12,753 pound overage from 2013/2014.

Recreational harvest of red drum peaked in 1984 at 1.05 million fish (or 2.6 million pounds; Tables 3 and 4). Since 1988, the number has fluctuated without trend between 250,000 and 760,000 fish (800,000 to 2.6 million pounds; Figures 5 and 7). Recreational harvest decreased from 760,933 fish (2.7 million pounds) in 2013 to 641,658 fish (2.3 million pounds) in 2014. The 2014 harvest is higher than the 10 year average (2005-2014) for recreational harvest in numbers (510,359) and pounds (1.7 million). Florida anglers landed the largest share of the coastwide recreational harvest in numbers (43%), followed by North Carolina (18%) and South Carolina (16%). Anglers release far more red drum than they keep; the percent of the catch released is generally over 80% during the last decade (Figure 7). Recreational releases show an increasing trend over the time series. The proportion of releases in 2014 was 83% (versus 81% in 2013), and the overall number of fish released was 3.1 million in 2014 (Figure 3, Table 5). It is estimated that 8% of released fish die as a result of being caught, resulting in an estimated 245,415 dead discarded fish in 2014 (Table 5). Recreational removals from the fishery are thus estimated to be 887,073 fish in 2014 (Figure 8).

IV. Status of Assessment Advice

Current stock status information comes from the 2009 benchmark stock assessment (SAFMC 2009) completed by the ASMFC Red Drum Stock Assessment Subcommittee and Technical Committee, peer reviewed by an independent panel of experts at the Southeast Data, Assessment, and Review (SEDAR) 18, and approved by the South Atlantic State-Federal Fisheries Management Board for use in management decisions. Previous interstate management decisions were based on regional assessments conducted by Vaughan and Helser (1990), Vaughan (1992, 1993, 1996), and Vaughan and Carmichael (2000). Several states have also conducted state-specific assessments (e.g., Murphy and Munyandorero 2009; Takade and Paramore 2007).

The 2009 stock assessment uses a statistical catch at age (SCA) model with age-specific data for red drum ages 1 through 7+. The Stock Assessment Subcommittee decided to move away from virtual population analyses used in past assessments primarily because of the assumption inherent in these models that the catch at age is known without error, whereas there is limited data to describe the catch of red drum early in the time series. Data available for the years 1989 through 2007 were included from the following sources: commercial and recreational harvest and discard data, fishery-dependent and -independent biological sampling data, tagging data, and fishery-independent survey abundance data.

The SEDAR 18 Review Panel considered the use of an SCA model appropriate given the types of data available for red drum. With certain revisions made to the data and the model configurations before or at the Review Workshop, the SEDAR 18 Review Panel supported the use of the final model runs. For the northern region, the Review Panel agreed that the model was informative of age 1 – 3 abundance and exploitation rates, but not for older age groups. The model was also found to be informative of annual trends in static spawning potential ratio (sSPR) and the 2005 – 2007

average sSPR. For the southern region, the Review Panel agreed that the model was informative of relative (not absolute) trends in age 1 – 3 abundance and exploitation, but not for older age groups. The model was also considered to be informative of relative trends in annual sSPR and the three-year average sSPR, this result being highly conditional on the estimated fishery selectivity pattern. These results for the southern region allow for only general statements on stock status.

The Review Panel accepted the existing threshold and target overfishing benchmarks of 30% sSPR and 40% sSPR for red drum. However, the Review Panel did not consider annual changes in sSPR to be informative and recommended adopting a three-year running mean of estimated annual sSPR as the indicator to compare to the management benchmarks. Because of the high uncertainty in the age 4 -7^{+} dynamics, the Review Panel did not see value in attempting to estimate indicators and benchmarks of stock biomass which would be used to measure overfished status.

A new benchmark assessment for red drum is currently on-going and is expected to be presented to the Board in November 2015.

V. Status of Research and Monitoring

There are no monitoring or research programs required annually of the states except for the submission of a compliance report. The following fishery-dependent (other than catch and effort data) and fishery-independent monitoring programs were reported in the 2015 reports.

Fishery Dependent Monitoring

- Maryland DNR – Samples commercial pound nets bi-weekly in the Chesapeake Bay from late spring through summer (2014: 1 fish). Monitors licensed charter boat captain logbooks for red drum captures (2014: 95 caught, 51 harvested).
- PRFC - Red drum are taken as incidental harvest in the commercial pound net and haul seine fisheries. The PRFC has a mandatory commercial harvest daily reporting system that collects harvest as well as discards or releases; however, no red drum were reported as being released in 2014.
- Virginia MRC – Samples commercially landed red drum through its biological monitoring program (2014: 131 fish of which 39 were aged). Coordinates volunteer angler tagging of red drum via the Virginia Game Fish Tagging Program that began in 1995 (2014: 3,025 fish tagged, 351 reported recaptures). Collects carcasses through the Marine Sportfish Collection Project.
- Delaware DFW: Commercial fishery monitored through mandatory logbook reports.
- North Carolina DMF – Commercial cap monitored through trip ticket program; samples commercially-landed red drum through its biological monitoring program (1982-present; 2014: 444 fish measured, primarily gill net).
- South Carolina DNR –State finfish survey reduced to the months of January and February in 2013 (2014: n=105). Charter Vessel Trip Reporting (2014: release rate = 94%). SC Marine Game Fish Tagging Program studies movement patterns, growth rates, and release-mortality rates (2014: 2711 fish tagged, 502 recaptured).
- Georgia CRD – Collects age, length, and gender data through the Marine Sportfish Carcass Recovery Project (2014: 700 red drum).
- Florida FWC – Conducted 10.973 trip interviews in 2014 to collect data on total-catch rates and sizes (through MRIP).

- NMFS – Collects recreational catch, harvest, release, and effort data, and length measurements via the Marine Recreational Information Program.

Fishery Independent Monitoring

- New Jersey BMF – Conducts five nearshore (within 12 nautical miles) trawl surveys each year. These surveys occur in January/February, April, June, August, and October. All species taken during these surveys are weighed and measured. Catch per unit effort in number of fish per tow and biomass per tow is calculated each year. Since the survey began in 1988, 2 red drum were caught during a single tow on January 24, 2013.
- North Carolina DMF - Conducts a seine survey to produce an age-0 abundance index (1991-present; 2014: n=270; CPUE of 2.3, increase from 2013 CPUE of 1.1). Conducts a gill net survey in Pamlico Sound to characterize size and age distribution, produce an abundance index, improve bycatch estimates, and study habitat usage (2001-present; 2014: CPUE was 3.14, the fourth highest in the time series); DMF conducts a longline survey to produce an adult index of abundance and tag fish (2007-present; 2014: n=322; CPUE remained relatively stable at 4.59 fish per set, with a time series average of 5.2).
- South Carolina DNR – Conducts an estuarine trammel net survey for subadults (2014 CPUE very low compared to historical values). Conducts an electrofishing survey in low salinity estuarine areas for juveniles and sub-adults (2014 CPUE third lowest in survey history). Conducts an inshore bottom longline survey for biological data and an abundance index of adults (2014 annual adult abundance stable since survey began, n=122 sampled for age in 2014). Conducts genetic sub-sampling as a part of the three surveys, particularly on YOY. Tags fish caught in each of these surveys (49,141 fish from trammel nets since 1991 (2014: n = 983); 7,676 fish from electrofishing since 2001 (2014: n = 431); 2,528 fish from longline since 2007 (2014: n = 434)).
- Georgia CRD – Conducts an estuarine trammel net survey for subadult biological data and an abundance index (2014: n = 157; CPUE increased in Wassaw estuary from 0.12 to 0.34 and increased in the Altamaha river delta from 0.39 to 2.09). Conducts an estuarine gill net survey for young-of-year biological data and an abundance index (2014: n = 434; CPUE in Wassaw estuary was 3.23 and in the Altamaha river delta was 1.3). Conducts a survey to determine the age structure of the adult stock on five year intervals (suspended indefinitely). Conducts a bottom longline survey for adult biological data and an abundance index (2014: n = 127).
- Florida FWC-FWRI – Conducts two seine surveys in the northern Indian River Lagoon (IRL) and the lower reaches of the St. Johns River (SJR) for young-of-the-year (< 40 mm SL) abundance indices (CPUE: increased in 2013 from a two-year low from 2011-2012). FWC-FWRI conducts a haul seine survey in these areas and the southern IRL for a subadult index (CPUE: 2013 decreased from an increasing trend between 2008 and 2012). Age and length data are collected during surveys (2013: 1,226 lengths from 183 meter haul seines, 348 otoliths from sampled fish).

Ageing Workshop

A Red Drum Ageing Workshop was held in October 2008. The Red Drum Technical Committee indicated the need for such as workshop prior to the 2009 stock assessment to standardize the otolith sectioning and ageing procedures and the current age dataset. Representatives from Virginia, North Carolina, South Carolina, Georgia, Florida, the National Marine Fisheries Service,

and the Gulf Council participated in the workshop. In addition to improving the age dataset for the ongoing assessment, the resulting standardized ageing procedure was published in an ASMFC reference document, with some states having already incorporated ageing instructions into their references.

VI. Status of Management Measures and Issues

Fishery Management Plan
Amendment 2 was fully implemented by January 1, 2003 and provided the management requirements for 2010. Requirements include: recreational regulations designed to achieve at least 40% sSPR; a maximum size limit of 27 inches or less; and current or more stringent commercial regulations. States are also required to have in place law enforcement capabilities adequate for successfully implementing their red drum regulations. In August 2013, the Management Board approved Addendum I to Amendment 2 of the Red Drum FMP. The Addendum revises the habitat section of Amendment 2 to include the most current information on red drum spawning habitat for each life stage (egg, larval, juvenile, sub-adult, and adult). It also identifies the distribution of key habitats and habitats of concern, including potential threats and bottlenecks.

De Minimis Requests
New Jersey and Delaware requested *de minimis* status through the annual reporting process. While Amendment 2 does not include a specific method to determine whether a state qualifies for *de minimis*, the PRT chose to evaluate the two states' contribution to the fishery by comparing each state's two-year average of combined commercial and recreational landings to that of the management unit. New Jersey and Delaware harvested each harvested zero percent of the two-year average total landings. *De minimis* status does not exempt either state from any requirement; it may exempt them from future management measures implemented through addenda to Amendment 2, as determined by the Management Board.

VII. Implementation of FMP Compliance Requirements for 2014

The PRT finds that all states have implemented the requirements of Amendment 2.

VIII. Recommendations of the Plan Review Team

Management and Regulatory Recommendations
< Consider approval of the *de minimis* requests by New Jersey and Delaware
< Support a continued moratorium of red drum fishing in the exclusive economic zone.

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

Stock Assessment and Population Dynamics
< Improve catch/effort estimates and biological sampling from recreational and commercial fisheries for red drum, including increased effort to intercept night fisheries for red drum. This should include significant efforts to determine the size and age structure of regulatory discards of live red drum. (H)

- States should maintain annual age-length keys. Expand biological sampling based on a statistical analysis to adequately characterize the age/size composition of removals by all statistical strata (gears, states, etc.) (H)
- Each state should develop an on-going red drum tagging program that can be used to estimate both fishing and natural mortality and movements. This should include concurrent evaluations of tag retention, tagging mortality, and angler tag reporting rates. (M)
- Establish programs to provide on-going estimates of commercial discards and recreational live release mortality using appropriate statistical methods. Discard estimates should examine the impact of slot-size limit management and explore regulatory discard impacts due to high-grading. (M)
- Evaluate the broader survey needs to identify gaps in current activities and provide for potential expansion and/or standardization between/among current surveys (M).

Biological

- Explore methods to effectively sample the adult population in estuarine, nearshore, and open ocean waters, such as in the ongoing red drum long line survey. (H)
- Determine if natural environmental perturbations limit recruitment, and if spawning stock size is the cause of recruitment variability (H)
- Continue tagging studies to determine stock identity, inshore/offshore migration patterns of all life stages (i.e. basic life history info gathering). Specific effort should be given to developing a large-scale program for tagging adult red drum (M)
- Fully evaluate the effects and effectiveness of using cultured red drum to facilitate higher catch rates along the Atlantic coast. (M)
- Determine habitat preferences, environmental conditions, growth rates, and food habits of larval and juvenile red drum throughout the species range along the Atlantic coast. Assess the effects of environmental factors on stock density/year class strength. (M)
- Refine maturity schedules on a geographic basis. Thoroughly examine the influence of size and age on reproductive function. Investigate the possibility of senescence in female red drum. (M)

Social

- Examine the effectiveness of controlling fishing mortality and minimum size in managing red drum fisheries.
- Encourage the NMFS to fund socioeconomic add-on questions to the recreational fisheries survey that are specifically oriented to red drum recreational fishing.

Economic

- Encourage the NMFS to continue funding socioeconomic add-on questions to the recreational fisheries survey that include data elements germane to red drum recreational fisheries management.
- Where appropriate, encourage member states to conduct studies to evaluate the economic costs and benefits associated with current and future regulatory regimes impacting recreational anglers including anglers oriented toward catch and release fishing trips.
- Fully evaluate the efficacy of using cultured red drum to restore native stocks along the Atlantic Coast including risk adjusted cost-benefit analyses. In any area where there is stocking of red drum, conduct genetic monitoring for each year class.

- < Conduct a special survey and related data analysis to determine the economic and operational characteristics of the "for-hire sector" targeting red drum especially fishing guide oriented businesses in the South Atlantic states.
- < Estimate the economic impacts (e.g. sales, jobs, income, etc.) of recreational red drum fisheries at the state and regional level including the "for-hire sector" (e.g. fishing guides).
- < States with significant fisheries (over 5,000 pounds) should collect socioeconomic data on red drum fisheries through add-ons to the recreational fisheries survey or by other means.

Habitat

- < Identify spawning areas of red drum in each state from North Carolina to Florida so these areas may be protected from degradation and/or destruction. (H)
- < Identify changes in freshwater inflow on red drum nursery habitats. Quantify the relationship between freshwater inflows and red drum nursery/sub-adult habitats. (H)
- < Determine the impacts of dredging and beach re-nourishment on red drum spawning and early life history stages. (M)
- < Investigate the concept of estuarine reserves to increase the escapement rate of red drum along the Atlantic coast. (M)
- < Identify the effects of water quality degradation (changes in salinity, DO, turbidity, etc.) on the survival of red drum eggs, larvae, post-larvae, and juveniles. (M)
- < Quantify relationships between red drum production and habitat. (L)
- < Determine methods for restoring red drum habitat and/or improving existing environmental conditions that adversely affect red drum production. (L)

IX. References

Atlantic States Marine Fisheries Commission (ASMFC). 2002. Amendment 2 to the Interstate Fishery Management Plan for Red Drum. ASMFC, Washington, DC, Fishery Management Report No. 38, 141 p.

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X. Figures

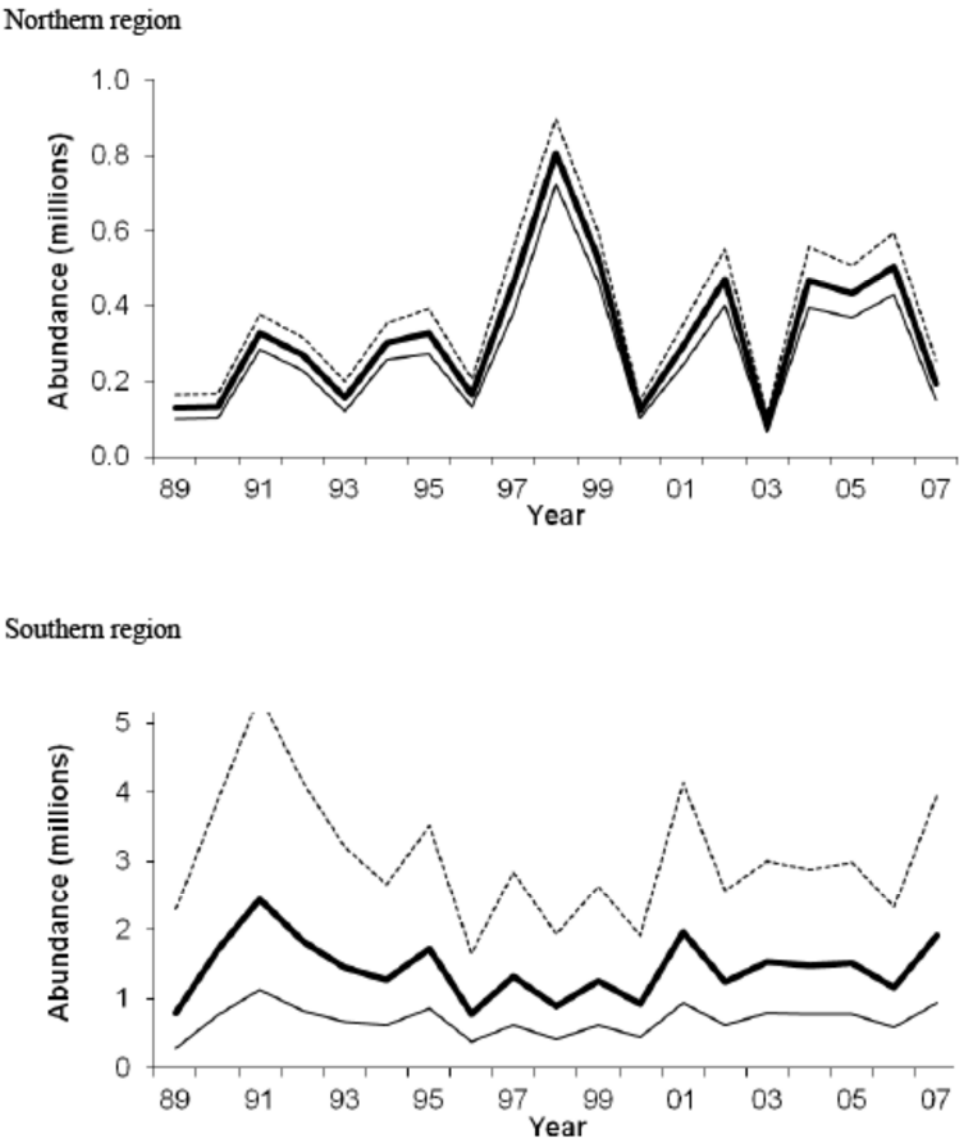


Figure 1. Estimated recruitment (age-1 abundance, heavy solid line) and ± 1.96 standard errors for the northern and southern regions during 1989-2007 (Source: SAFMC 2009). Note: assessment results for the southern region are indicative of relative trends but not absolute values.

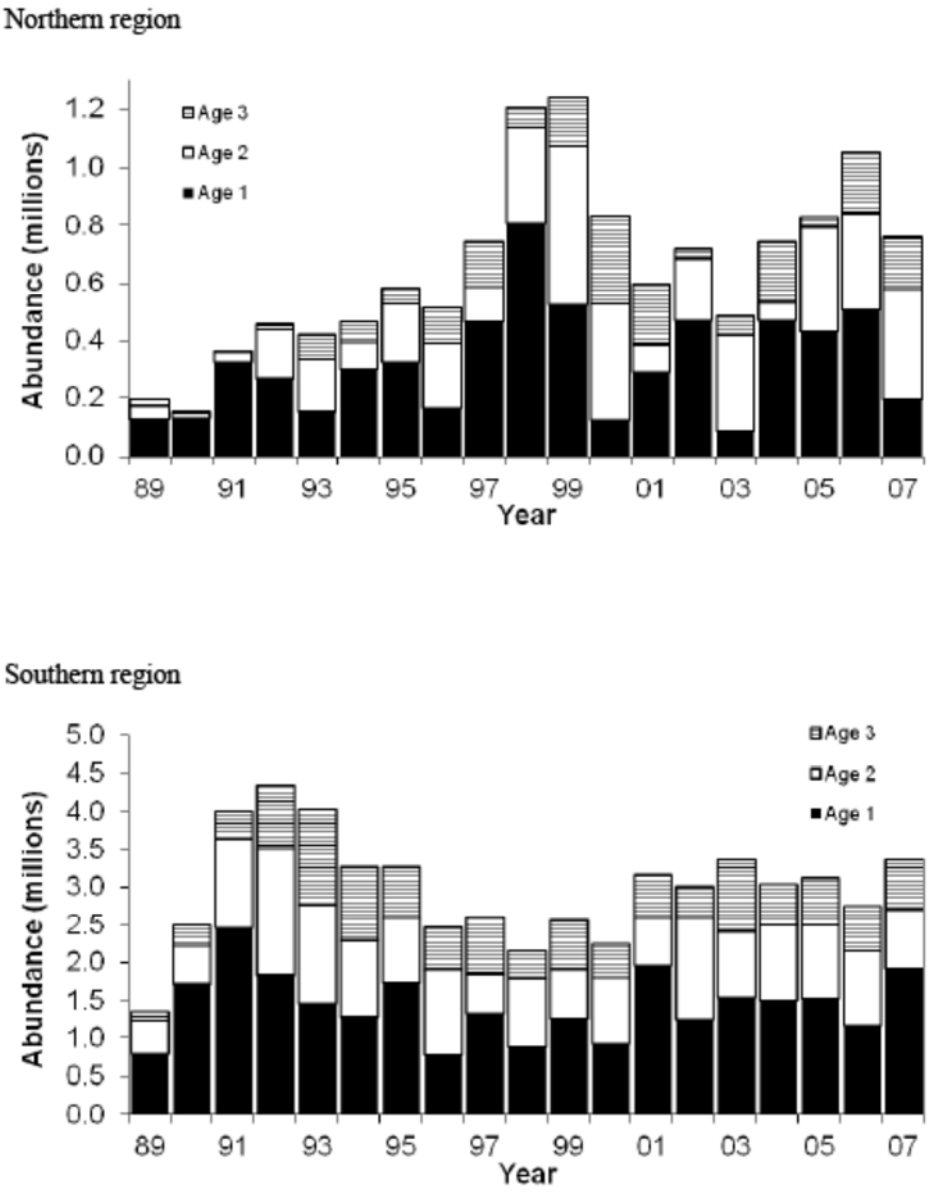


Figure 2. Estimates of abundance of red drum ages 1-3 in the northern and southern regions during 1989-2007 (Source: SAFMC 2009). Note: assessment results for the southern region are indicative of relative trends but not absolute values.

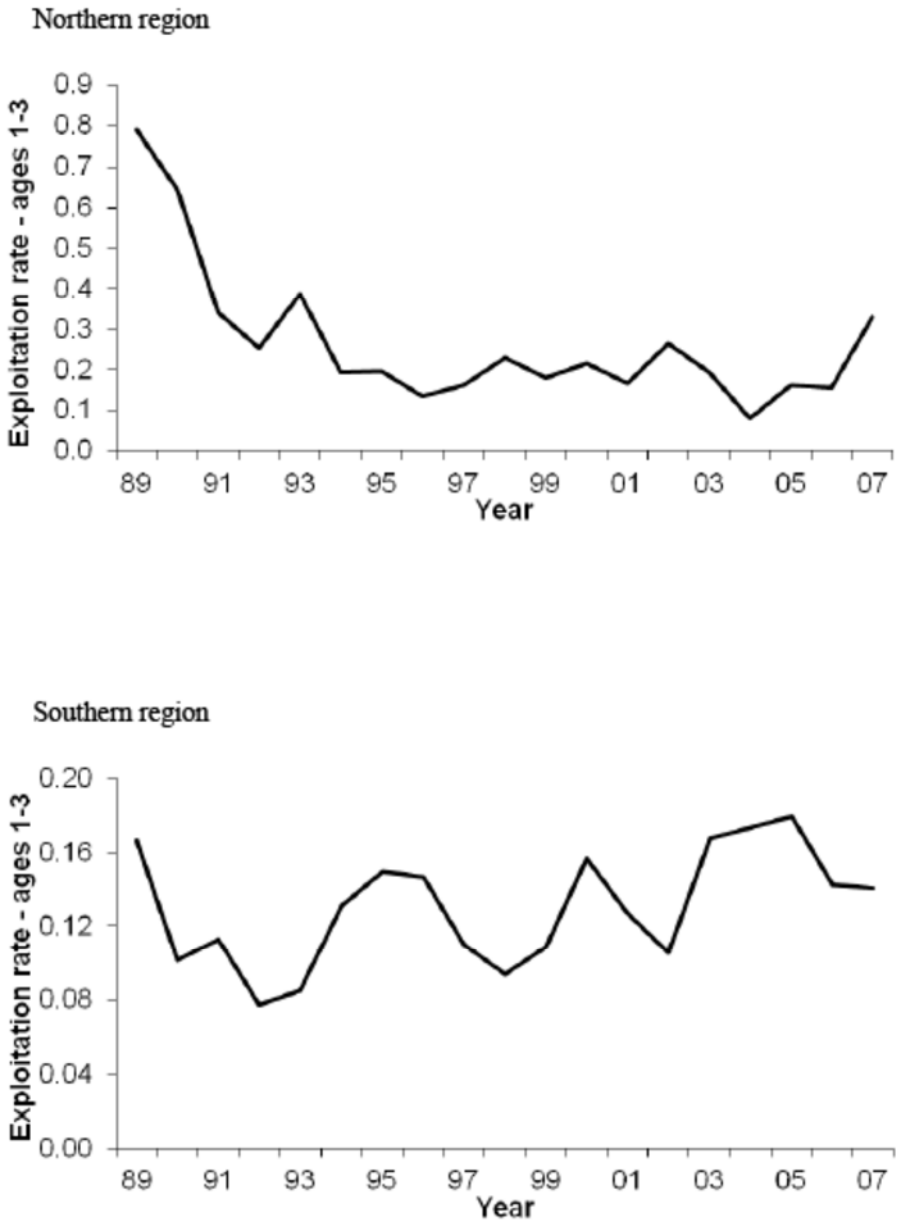


Figure 3. Estimated annual exploitation rate for red drum ages 1-3 in the northern and southern regions during 1989-2007 (Source: SAFMC 2009). Note: assessment results for the southern region are indicative of relative trends but not absolute values.

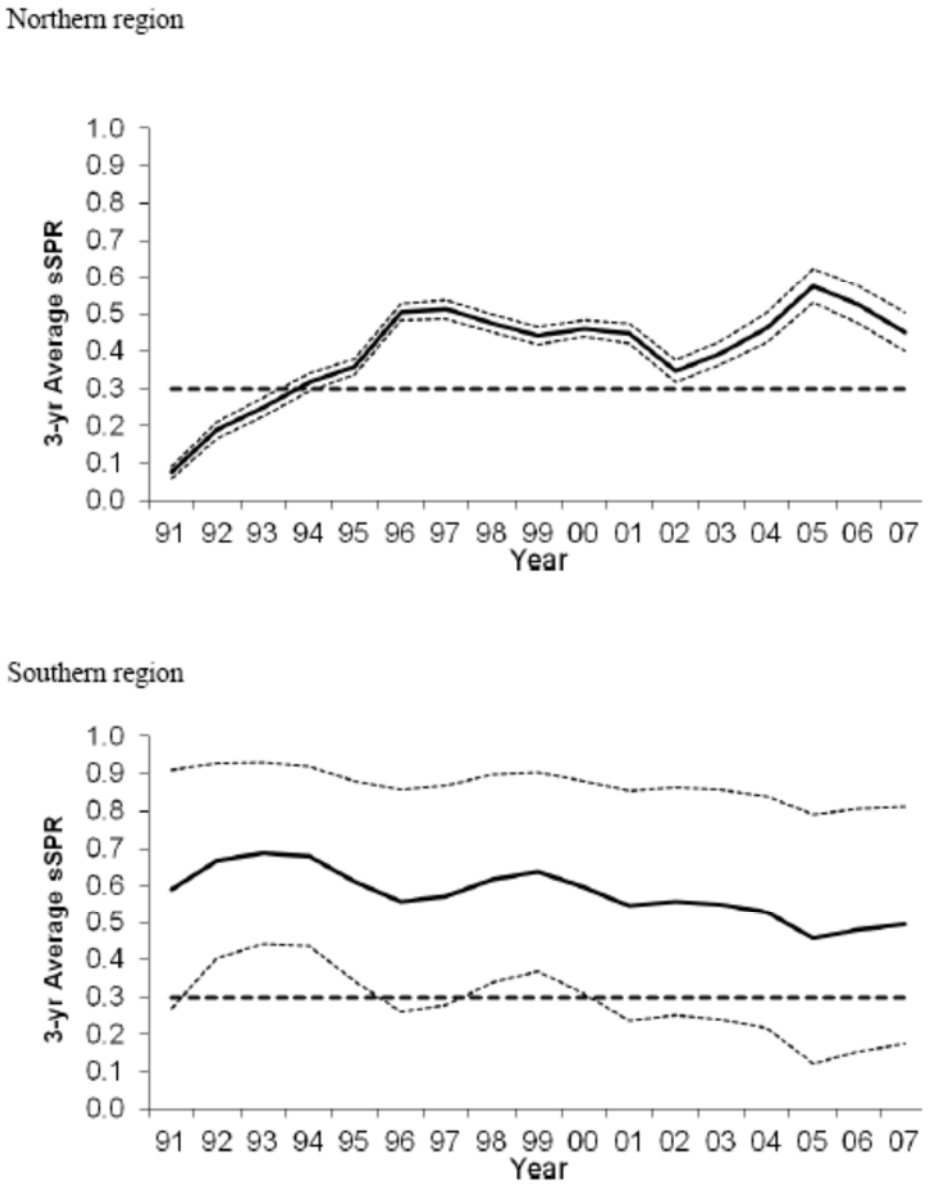


Figure 4. Northern and southern region estimates of three-year average static spawning potential ratio with ± 1.96 standard errors (dashed lines) during 1991-2007. Three-year averages include current and previous two year's sSPR estimates. The heavy dashed line shows the 30% overfishing threshold (Source: SAFMC 2009). Note: assessment results for the southern region are indicative of relative trends but not absolute values.

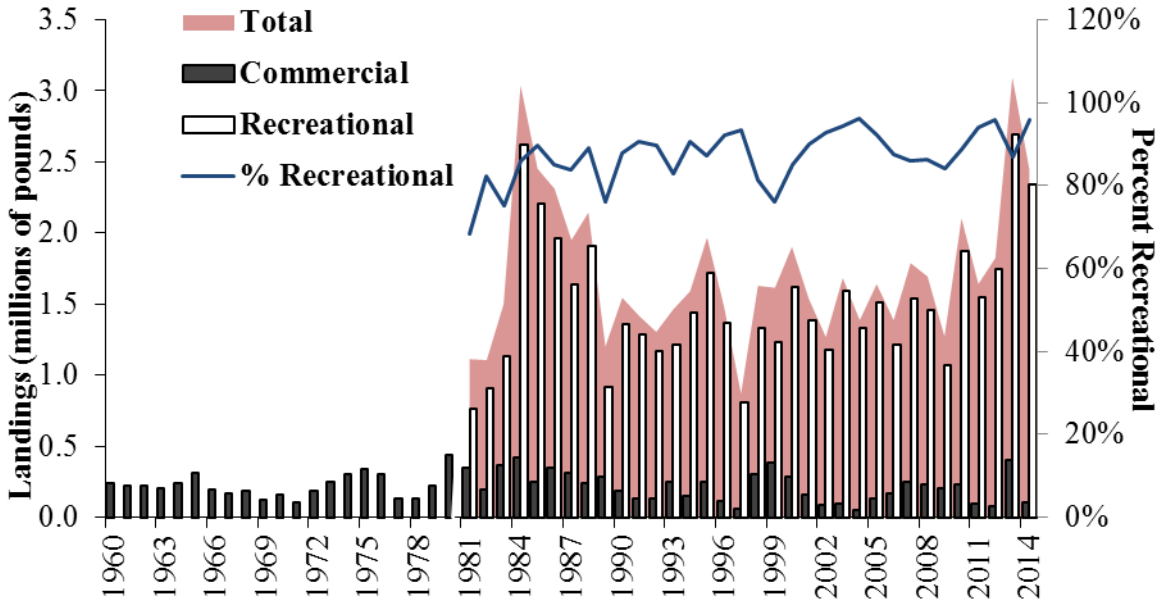


Figure 5. Commercial and recreational landings (pounds) of red drum. Recreational data not available prior to 1981. See Tables 2 and 3 for values and data sources.

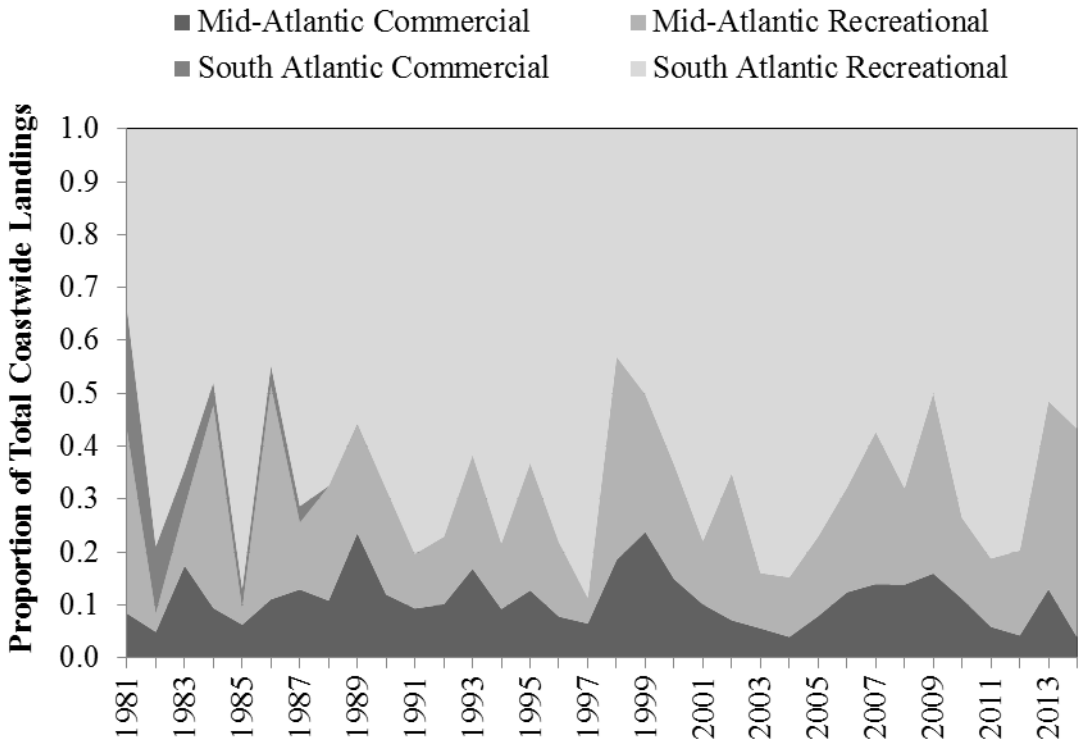


Figure 6. Proportion of regional, sector-specific landings to total coastwide landings (pounds). See Tables 2 and 3 for data sources.

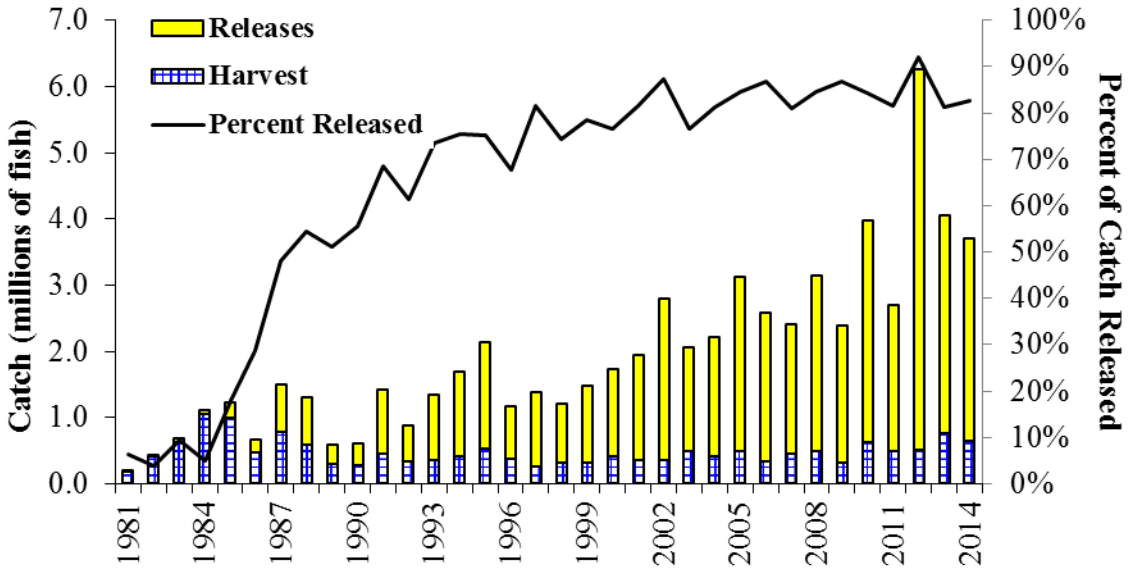


Figure 7. Recreational catch (harvest and alive releases) of red drum (numbers) and the proportion of catch that is released. See Tables 4 and 5 for values and data sources.

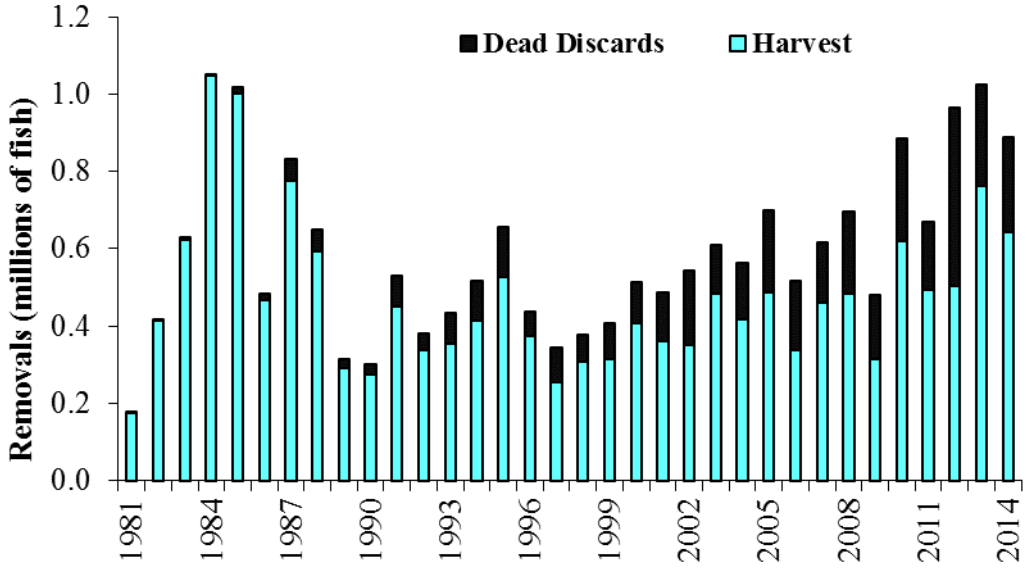


Figure 8. Recreational removals (harvest and dead discards) of red drum (numbers). Dead discards are estimated by applying an 8% discard mortality rate to alive releases. See Tables 4 & 5 for values and data sources.

XI. Tables

Table 1. Red drum regulations for 2014. The states of New Jersey through Florida are required to meet the requirements in the FMP; states north of New Jersey are encouraged to follow the regulations. All size limits are total length.

State	Recreational	Commercial
NJ	18" - 27", 1 fish	18" - 27", 1 fish
DE	20" - 27", 5 fish	20" - 27", 5 fish
MD	18" - 27", 1 fish	18" - 25", 5 fish
PRFC	18" - 25", 5 fish	18" - 25", 5 fish
VA	18" - 26", 3 fish	18" - 26", 3 fish
NC	18" - 27", 1 fish	18" - 27"; 250,000 lb harvest cap with overage payback (150,000 lbs Sept 1- April 30; 100,000 lbs May 1-Aug 31); closed November 23, 2013; September 1, 2014 harvest of red drum allowed with 7 fish daily trip limit; red drum must be less than 50% of catch (lbs); small mesh (<5" stretched mesh) gill nets attendance requirement May 1 - November 30. Fishing year: September 1 – August 31.
SC	15" - 23", 3 fish. Gigging allowed March-November	Gamefish Only
GA	14" - 23", 5 fish	Gamefish Only
FL	18" - 27", Northern Region- 2 fish; Southern Region- 1 fish	Sale of native fish prohibited

Table 2. Commercial landings (pounds) of red drum by state, 1981-2014. (Source: personal communication with NMFS Fisheries Statistics Division, Silver Spring, MD and ACCSP, Arlington, VA, except where noted below)

Year	NJ	DE	MD	PRFC	VA	NC	SC	GA	FL	Total
1981					200	93,420		261	258,374	352,255
1982					1,700	52,561	2,228	251	139,170	195,910
1983			100		41,700	219,871	2,274	1,126	105,164	370,235
1984					2,600	283,020	3,950	1,961	130,885	422,416
1985					1,100	152,676	3,512	3,541	88,929	249,758
1986			1,000		5,400	249,076	12,429	2,939	77,070	347,914
1987					2,600	249,657	14,689	4,565	42,993	314,504
1988			8,100	2	4,000	220,271		3,281	284	235,938
1989			1,000	86	8,200	274,356	165	3,963		287,770
1990			29	86	1,481	183,216		2,763		187,575
1991			7,533	3,808	24,771	96,045		1,637		133,794
1992			1,087	196	2,352	128,497		1,759		133,891
1993			55		8,637	238,099		2,533		249,324
1994			859		4,080	142,119		2,141		149,199
1995			6		2,992	248,122		2,578		253,698
1996			215		2,006	113,338		2,271		117,830
1997			22	4	3,820	52,502		1,395		57,743
1998	311		336		6,456	294,366		672		302,141
1999	241	6	504	186	10,856	372,942		1,115		385,850
2000			843	10	11,512	270,953		707		284,025
2001			727	191	4,905	149,616		*		155,439
2002			1,161	285	7,361	81,370		*		90,177
2003			631	47	2,716	90,525		*		93,919
2004	12		12		638	54,086		*		54,748
2005			37	51	527	128,770		*		129,385
2006			8	2	2,607	169,206		*		171,823
2007			90	58	6,372	243,658		*		249,747
2008			40	69	4,585	229,809		*		234,503
2009	129		12	157	8,315	200296		*		208,909
2010			19	22	3,634	231,828		*		235,503
2011				3	4,369	91,980				96,352
2012	7,971		334	81	2,609	66,519				77,514
2013	176	0	2,730	268	28,766	371,949				403,889
2014	55	0	298	3	11,999	90,594		0	0	102,949

* Notes: NJ landings from SAFIS, 2004-present; MD landings from state reporting program, 1991-present; PRFC landings from agency reporting program, 1988-present; VA landings from state reporting program, 1996-present; NC landings from state reporting program, 1994-present; GA landings from state reporting program, 2000-present, * indicates confidential landings because less than three dealers reported.

Table 3. Recreational landings (pounds) of red drum by state, 1981-2014. (Source: personal communication with NMFS Fisheries Statistics Division, Silver Spring, MD)

Year	NJ	DE	MD	VA	NC	SC	GA	FL	Total
1981			4,370	347,939	31,519	50,230	9,442	317,963	761,463
1982					37,511	340,686	52,150	480,676	911,023
1983			3,018	51,299	109,540	222,691	67,298	675,924	1,129,770
1984				1,285	1,160,539	183,282	294,583	976,971	2,616,660
1985					70,677	1,532,316	185,887	414,176	2,203,056
1986			754,161	145,517	31,594	498,586	173,837	360,725	1,964,420
1987				44,332	200,729	913,639	250,795	227,222	1,636,717
1988				9,030	451,974	1,050,049	385,860	12,507	1,909,420
1989			2,348	27,236	214,849	396,771	127,245	146,064	914,513
1990			2,679		302,994	631,819	161,712	258,569	1,357,773
1991			5,635	30,582	108,268	284,290	337,207	516,999	1,282,981
1992				55,324	109,134	411,484	198,751	396,555	1,171,248
1993				45,505	266,459	282,614	328,245	290,930	1,213,753
1994				3,684	192,060	314,632	353,616	578,412	1,442,404
1995				66,270	405,620	417,595	300,337	525,231	1,715,053
1996				1,512	204,556	396,394	164,756	596,483	1,363,701
1997				1,810	39,077	296,155	129,836	345,390	812,268
1998				34,861	591,428	129,619	84,348	487,091	1,327,347
1999				92,794	326,303	103,777	166,630	540,310	1,229,814
2000				95,596	316,029	93,043	228,965	885,447	1,619,080
2001				51,890	132,578	188,198	155,854	853,714	1,382,234
2002		860	15,154	155,212	182,225	103,831	170,572	551,128	1,178,982
2003				57,213	118,808	449,399	234,865	729,446	1,589,731
2004				32415	124,264	312,569	296,777	566,508	1,332,533
2005				7,624	239,694	298,600	177,169	788,993	1,512,080
2006		2,064		21,039	251,735	160,760	143,699	636,742	1,216,039
2007				209,248	305,664	152,190	197,510	674,463	1,539,075
2008				72,510	236,744	254,305	244,594	652,613	1,460,766
2009				148,573	286,702	165,874	125,499	343,359	1,070,007
2010				40,323	281,587	451,144	319,427	776,346	1,868,827
2011					212,245	441,833	229,214	662,811	1,546,103
2012	0	396	26,788	27,422	238,310	368,445	107,368	978,727	1,747,456
2013	0	7,153	6,367	411,236	676,050	236,887	129,279	1,226,481	2,693,453
2014	0	0	0	221,280	598,166	242,371	154,332	1,129,663	2,345,812

Table 4. Recreational landings (numbers) of red drum by state, 1981-2014. (Source: personal communication with NMFS Fisheries Statistics Division, Silver Spring, MD)

Year	NJ	DE	MD	VA	NC	SC	GA	FL	Total
1981			601	49,630	15,054	27,319	6,323	75,244	174,171
1982					16,445	160,760	30,757	204,401	412,363
1983			2,413	32,940	81,528	104,806	56,854	344,513	623,054
1984				1,457	108,787	129,547	258,188	549,381	1,047,360
1985				0	22,077	530,110	183,837	265,185	1,001,209
1986			12,804	28,139	17,501	193,188	102,279	113,440	467,351
1987				2,186	61,100	522,420	138,062	51,225	774,993
1988				4,311	142,626	287,916	147,042	9,542	591,437
1989			1,014	12,007	62,359	127,492	51,557	34,748	289,177
1990			1,279	0	33,149	118,666	76,304	44,280	273,678
1991			2,745	17,119	38,658	125,833	162,802	102,727	449,884
1992				13,275	23,593	112,534	83,861	104,265	337,528
1993				14,005	49,493	119,189	105,710	65,140	353,537
1994				1,378	28,953	129,515	134,214	120,938	414,998
1995				3,665	88,593	202,430	134,915	96,927	526,530
1996				572	36,746	130,649	60,251	146,823	375,041
1997				1,920	8,749	129,022	39,041	75,235	253,967
1998				13,070	114,638	46,509	24,929	107,982	307,128
1999				12,425	64,739	44,069	67,283	126,180	314,696
2000				22,603	61,618	37,217	94,144	191,070	406,652
2001				6,967	23,142	61,420	90,376	177,633	359,538
2002		275	5,521	49,795	42,541	41,190	90,993	119,010	349,325
2003				13,607	25,481	162,484	122,259	159,331	483,162
2004				5,005	30,017	107,803	138,893	136,728	418,446
2005				2,766	51,807	130,655	105,655	195,550	486,433
2006		468	6,362	12,665	55,714	48,703	68,813	145,860	338,585
2007				46,405	66,789	72,261	113,237	161,427	460,119
2008				20,847	50,809	119,471	133,107	159,246	483,480
2009				38,670	57,543	70,326	68,857	79,635	315,031
2010				11,076	64,024	172,708	194,826	175,828	618,462
2011	995				45,143	161,503	106,962	180,001	494,604
2012		296	17,869	28,149	52,948	121,068	45,766	238,191	504,287
2013		1,686	2,134	124,156	164,217	97,387	73,826	297,527	760,933
2014	0	0	0	53,545	116,921	103,892	91,764	275,536	641,658

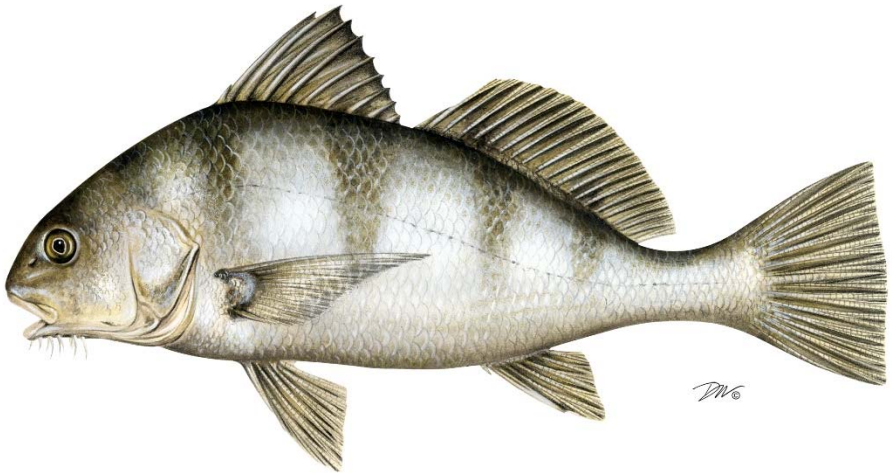
Table 5. Recreational alive releases and dead discards (numbers) of red drum by state, 1981-2014. Dead discards are estimated based on an 8% release mortality rate. (Source: personal communication with NMFS Fisheries Statistics Division, Silver Spring, MD.)

Year	NJ	DE	MD	VA	NC	SC	GA	FL	Total	Dead Discards
1981					2,230	417		9,042	11,689	935
1982						2,496	3,377	10,172	16,045	1,284
1983					1,866	6,751	1,417	54,723	64,757	5,181
1984					2,931	0	4,232	47,196	54,359	4,349
1985				1,115		16,688	6,315	193,399	217,517	17,401
1986				7,595		24,018	56,045	100,095	187,753	15,020
1987					18,499	82,595	234,676	377,959	713,729	57,098
1988				3,958	24,874	269,176	177,319	233,988	709,315	56,745
1989			2,918	7,038	7,566	42,824	71,162	172,303	303,811	24,305
1990			0	934	12,452	102,611	156,263	68,667	340,927	27,274
1991			4,432	14,461	121,178	99,968	92,803	645,773	978,615	78,289
1992	301			15,383	60,230	46,269	128,066	284,893	535,142	42,811
1993				50,434	182,301	146,324	140,386	465,656	985,101	78,808
1994				10,684	107,662	324,706	146,039	691,261	1,280,352	102,428
1995				33,560	164,520	362,844	356,618	683,706	1,601,248	128,100
1996				2,424	35,752	176,517	71,983	500,374	787,050	62,964
1997		2,571		109,754	259,570	175,772	22,736	560,559	1,130,962	90,477
1998			2,768	93,660	199,701	84,274	33,882	481,009	895,294	71,624
1999			2,148	232,893	247,146	87,776	18,586	565,981	1,154,530	92,362
2000			1,458	196,541	203,967	94,050	129,190	693,152	1,318,358	105,469
2001				30,365	238,552	221,045	249,892	850,044	1,589,898	127,192
2002		1,388	18,412	801,239	640,857	142,931	168,902	663,879	2,437,608	195,009
2003		731	2,935	43,379	75,561	430,052	272,897	748,765	1,574,320	125,946
2004				33,777	181,252	438,173	141,972	1,006,814	1,801,988	144,159
2005				28,351	378,541	493,595	334,521	1,405,967	2,640,975	211,278
2006		875	12,357	185,859	510,264	539,936	136,306	847,269	2,232,866	178,629
2007				110,566	416,352	436,797	225,985	758,684	1,948,384	155,871
2008		75	217	236,787	658,887	552,217	313,743	889,550	2,651,476	212,118
2009			14,754	178,396	429,776	751,123	167,704	521,659	2,063,412	165,073
2010			2,182	28,580	635,876	786,452	483,650	1,414,115	3,350,855	268,068
2011				61,330	207,697	664,291	213,781	1,051,143	2,198,242	175,859
2012	0	5,873	280,000	2,503,237	1,533,006	543,618	90,237	799,428	5,755,399	460,432
2013	0	407	2,207	220,305	654,030	673,377	198,722	1,541,541	3,290,589	263,247
2014	0	41	273	114305	383421	635,152	285770	1648723	3067685	245,415

2015 REVIEW OF THE ATLANTIC STATES MARINE FISHERIES COMMISSION FISHERY MANAGEMENT PLAN FOR

BLACK DRUM (*Pogonias cromis*)

2013 FISHING YEAR



The Black Drum Plan Review Team

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Table of Contents

I. Status of the Fishery Management Plan

Date of FMP Approval:	Original FMP – June 2013
Management Areas:	The western Atlantic coast distribution of the resource from Gulf of Maine through Florida
Active Boards/Committees:	South Atlantic State/Federal Fisheries Management Board; Black Drum Technical Committee, Stock Assessment Subcommittee, Plan Development Team, Plan Review Team; South Atlantic Species Advisory Panel

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

The FMP requires all states to implement a maximum possession limit and minimum size limit (of at least 12 inches) by January 1, 2014, with an additional increase of the minimum size limit to at least 14 inches required by January 1, 2016 (ASMFC 2013). The FMP also includes a management framework to adaptively respond to future concerns or changes in the fishery or population.

There are four plan objectives:

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

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

II. Status of the Stocks

In the 2015 Black Drum benchmark stock assessment, the Stock Assessment Subcommittee (SASC) selected the Depletion-Based Stock Reduction Analysis (DB-SRA; Dick and McCall 2011) as the preferred method for estimating catch reference points. The SASC considered Depletion-Corrected Average Catch (DCAC; McCall 2009) analysis but due to the method not

incorporating the removals into a population dynamics process, and uncertainty over how changes in exploitation rate time series may impact the sustainable yield relative to the current stock condition, it became the less preferred method. Based on the DB-SRA results, black drum life history, indices of abundance, and history of exploitation, the black drum stock is not overfished and not experiencing overfishing (ASMFC 2015). Median biomass was estimated to decline slowly and steadily from 135.2 million pounds in 1900 to 90.78 million pounds in 2012, though the median biomass estimate in 2012 is still well above the median biomass that produces maximum sustainable yield (BMSY; 47.26 million pounds). The median maximum sustainable yield (MSY) estimate is 2.12 million pounds and provides an annual catch target that can be used to sustainably manage the fishery. The median overfishing limit (OFL) estimated with DB-SRA is 4.12 million pounds and provides a catch threshold that indicates overfishing when exceeded. The OFL is the maximum exploitation rate at the current biomass that does not lead to overfishing.

III. Status of the Fishery

The following discussion utilizes the results from direct queries of the MRIP data through their website. Adjustments needed to make these consistent through time (convert pre-2004 MRFSS data, adjust for changes in for-hire component of survey, and deletion of 1981-85 headboat data) have not been made here.

Total black drum landings from New Jersey through the east coast of Florida in 2013 are estimated at 1.8 million pounds (Tables 2 and 3, Figure 2). This represents an 84.2% increase from the total harvest in 2012 but is below (81%) the previous ten-year (2003-2012) average. The commercial and recreational fisheries harvested 16% and 84% of the total in 2013, respectively.

Commercial landings of black drum span from New Jersey through Florida, with Virginia and North Carolina making up the majority (75%) of landings (Table 2). Coastwide commercial landings show no particular temporal trends, ranging from approximately 130,000 to 400,000 pounds annually over the last 10 years (Figure 2). In 2013, coastwide commercial harvest increased from 237,846 pounds in 2012 to 284,632 pounds, the majority (45%) from North Carolina (Table 2). Historically, the major commercial harvesters were Virginia and North Carolina.

Recreational harvest of black drum peaked in 2008 at 789,000 fish (or 5.2 million pounds; Tables 3 and 4). Since 2000, the number has fluctuated without trend between 263,000 and 789,000 fish (744,000 to 5.2 million pounds; Figures 2 and 3). Recreational harvest increased from 263,313 fish (744,267 pounds) in 2012 to 613,674 fish (1.5 million pounds) in 2013. The 2013 harvest represents a 43% increase in numbers but a 22% decrease in pounds from the previous ten year (2003-2012) average. North Carolina anglers landed the largest share of the coastwide recreational harvest in numbers (59%), followed by Florida (31%) and South Carolina (6%). Anglers released approximately the same number of black drum as they kept from their catch; the percent of the catch released is generally over 50% during the last decade (Figure 3). The proportion of releases decreased in 2013 to 47% (versus 59% in 2012), while the overall number of fish released increased by approximately 381,858 to 556,908 fish (Figure 3, Table 5). This increase in the number of releases may be attributable to recent management measures (ie: implementation of the 12” inch minimum size).

IV. Status of Assessment Advice

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

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

V. Status of Research and Monitoring

There are no monitoring or research programs required annually of the states except for the submission of a compliance report. The following fishery-dependent (other than catch and effort data) and fishery-independent monitoring programs were reported in the 2015 reports.

<u>Fishery Dependent Monitoring</u>

- Delaware DFW- Samples commercial drifted gill nets and recreational anglers (2013: 81 fish sampled, 69 males & 12 females, recreational samples had higher mean age (29 years) and lengths (1054 mm))
- Maryland DNR – Samples commercial pound nets once every other week in the Chesapeake Bay from late spring through summer (2013: 4 fish).
- Virginia MRC – Samples commercially landed and recreational harvest of black drum through its biological monitoring program (2013: 87 fish; 56 weights recorded; 21 otoliths collected & aged).
- North Carolina DMF – Conducts a gill-net observer program.
- South Carolina DNR –State finfish survey terminated in February 2013; state took over MRIP intercept sampling in 2013 (information reported through MRIP). SC continues their tournament and freezer fish rack program to obtain biological information on age, sex, and maturity.
- Georgia CRD – Collects age, length, and gender data through the Marine Sportfish Carcass Recovery Project (2013: 54 black drum out of 4,392 fish; avg length 381.6 mm).
- Florida FWC – Conducts a random survey of licensed anglers on the sizes of kept and released fish (conducted through MRIP). The state also conducts commercial fish house sampling.
- NMFS – Collects recreational catch, harvest, release, and effort data, and length measurements via the Marine Recreational Information Program.

<u>Fishery Independent Monitoring</u>

- New Jersey
    - Ocean Trawl Survey: index has ranged from .57 to .00 over the last 5 years. In 2013 the black drum index was .10.

    - Delaware River Seine: index has ranged from .02 to .11 over the last 5 years, with 2013 (.11) marking the highest reading of abundance since 2007.
    - Delaware Bay Trawl: A near shore fixed station trawl survey has been conducted in Delaware Bay from April through November since 1991 at eleven stations using a 16 foot otter trawl. Indices of abundance were calculated for Black Drum for the months of August through October, the only time in the survey when juveniles recruit to the survey index has ranged from .00 to .21 over the last 5 years. In 2013 the black drum index was .12
- Delaware DFW- conducts two trawl surveys (16 ft for juvenile finfish; 30ft for adults). For the 16ft trawl survey, in 2013 the CPUE=.06 and the GM/tow=.04; for the 30ft trawl the CPUE= 1.00 and the GM/tow=.24.
- Maryland DNR- Conducts the Costal Bays Fisheries seine survey in Maryland's Coastal Bay and generally catches juvenile fishes. (2013: GM catch per haul in numbers, <.2)
- North Carolina DMF - Conducts a gill net survey in Pamlico Sound to characterize size and age distribution, produce an abundance index (2013: n= 120; CPUE=.42; avg centerline length=13.5").
- South Carolina DNR – Conducts an estuarine trammel net survey for subadults in 7 estuaries (as strata)-Port Royal, ACE Basin, Ashly River, Charleston Harbor, Wando River, Cape Roman, Winyah Bay (CPUE: increase from 2012 to 2013; .295 fish per set up from .185 fish per set).
- Georgia CRD – Conducts an estuarine trammel net survey for subadult biological data and an abundance index (2013: n = 4; CPUE in Wassaw estuary= .01; Altamaha river delta=0.05). Conducts an estuarine gill net survey for young-of-year biological data and an abundance index (2013: n = 2; CPUE in Wassaw estuary= 0; Altamaha river delta=0.02).
- Florida FWC-FWRI – Conducts two seine surveys in the northern and southern Indian River Lagoon (IRL) and northeast Florida near Jacksonville (N IRL: n=11, mean size of 256 mm, 2.6% of samples; S IRL: n=576, mean size of 239mm, 40.3% of samples; NE FL: n=7, mean size of 154mm). FWC-FWRI also conducts a haul seine survey in these areas and the southern IRL for a subadult index (S IRL: n=11, mean size of 217mm, 1% of samples).

VI. Status of Management Measures and Issues

Fishery Management Plan

The Black Drum FMP requires all states with a declared interest in the species to establish a maximum possession limit by January 1, 2014, a minimum size limit that shall be no less than 12 inches by January 1, 2014 and a minimum size limit that shall be no less than 14 inches by January 1, 2016. In 2013, Georgia and North Carolina were only states yet to implement these management measures.

De Minimis

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

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

VII. Implementation of FMP Compliance Requirements for 2013

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

VIII. Recommendations of the Plan Review Team

Management and Regulatory Recommendations

- Review impact of increased minimum sizes over the next years as data becomes available.

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

Stock Assessment and Population Dynamics

- Age otoliths that have been collected and archived. (H)
- Collect information to characterize the size composition of fish discarded in recreational fisheries. (H)
- Increase biological sampling in commercial fisheries to better characterize the size and age composition of commercial fisheries by state and gear. (H)
- Increase biological sampling in recreational fisheries to better characterize the size and age composition by state and wave. (H)
- Obtain estimates of selectivity-at-age for commercial fisheries by gear, recreational harvest, and recreational discards. (H)
- Continue all current fishery-independent surveys and collect biological samples for black drum on all surveys. (H)
- Develop fishery-independent adult surveys. Consider long line and purse seine surveys. (H)
- Collect age samples, especially in states where maximum size regulations preclude the collection of adequate adult ages. (H)
- Conduct studies to estimate catch and release mortality rates in recreational fisheries. (H)
- Continue to do additional genetic work to figure out the extent of mixing between regional stocks. A recent study found significant genetic differences between black drum populations but also recent or current gene flow between the regions (Leidig et al., 2015). More studies are needed to confirm the extent of the species movement and the fluidity of the regional populations. (H)
- Conduct additional tagging studies, especially radio-tracking tags (H)
- Obtain better estimates of harvest from the black drum recreational fishery (especially in the mid-Atlantic and states with short seasons). (H)
- Conduct reproductive studies, including: age and size-specific fecundity, spawning frequency, spawning behaviors by region, and movement and site fidelity of spawning adults. (M)
- Collect information on the magnitude and sizes of commercial discards. Obtain better estimates of bycatch of black drum in the gill-net fisheries. (M)
- Conduct a high reward tagging program to obtain improved return rate estimates. (M)

- Continue and expand current tagging programs to obtain mortality and growth information and movement at size data. (M)
- Improve sampling of night time fisheries. (M)

IX. References

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X. Figures

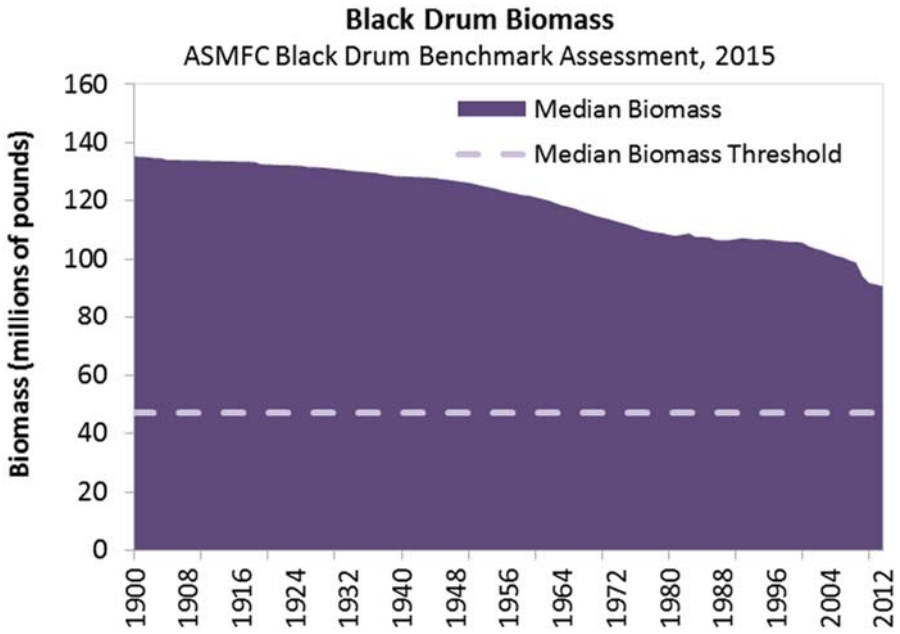

Figure 1. DB-SRA estimates of Median biomass and threshold 1900-2012 (Source: ASMFC 2015).

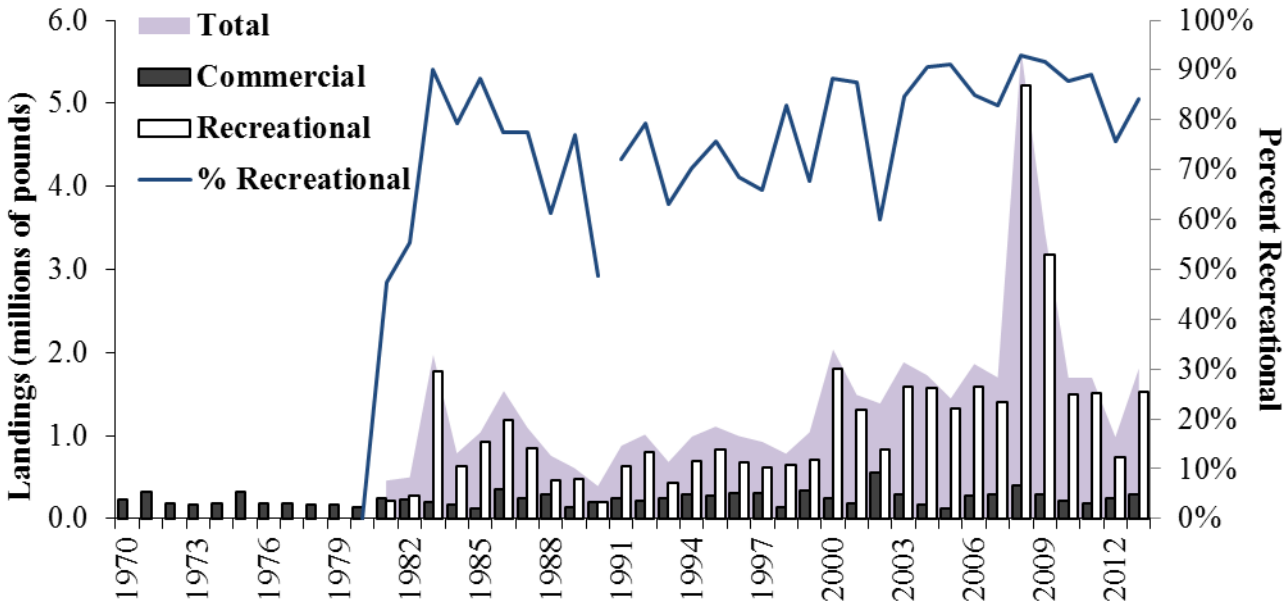

Figure 2. Commercial and recreational landings (pounds) of black drum. Recreational data not available prior to 1981. See Tables 2 and 3 for values and data sources.

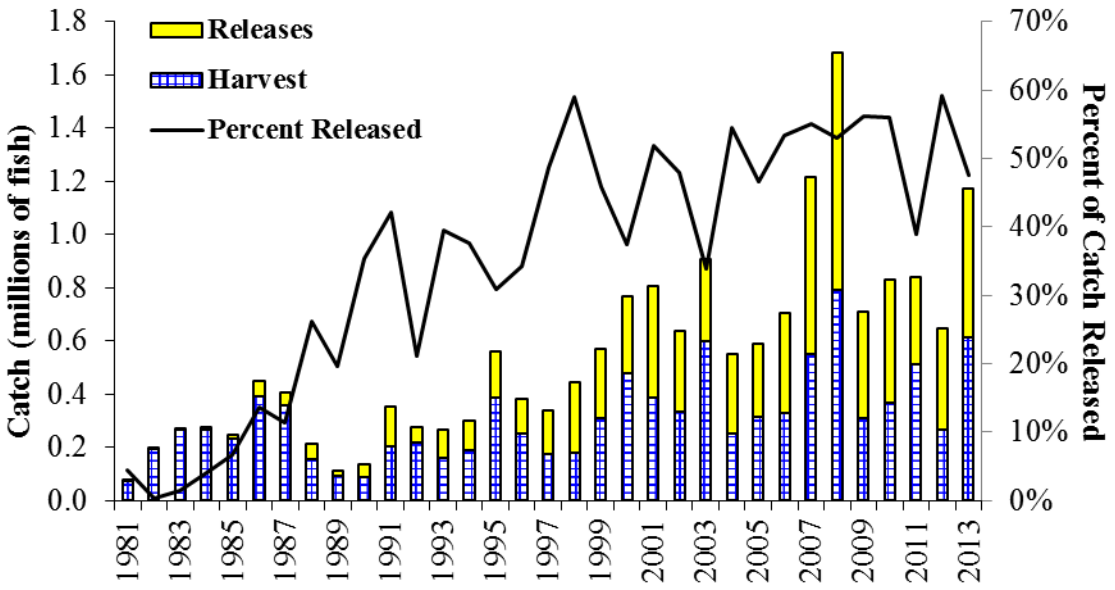

Figure 3. Recreational catch (harvest and alive releases) of black drum (numbers) and the proportion of catch that is released. See Tables 4 and 5 for values and data sources.

XI. Tables

Table 1. Black drum regulations for 2013. The states of New Jersey through Florida are required to meet the requirements in the FMP. All size limits are total length.

State	Recreational		Commercial			Notes
	Size limit	Bag limit	Size limit	Trip Limit	Annual Quota	
ME->NY	-	-	-	-	-	
NJ	16” min	3/person/day	16” min	10,000 lbs	65,000 lbs	
DE	16” min	3/person/day	16” min	10,000 lbs	65,000 lbs	
MD	16” min	1/person/day 6/vessel (Bay)	16” min		1,500 lbs Atlantic Coast	Ches Bay closed to commercial harvest
VA	16” min	1/person/day	16” min	1/person/day	120,000 lbs	without Black Drum Harvesting and Selling permit
NC	**		**			
SC	14” min 27” max	5/person/day	14” min 27” max	5/person/day		Commercial fishery primarily bycatch
GA	10” min*	15/person/day	10” min	15/person/day		
FL	14” min 24” max	5/person/day	14” min 24” max	500 lbs/day		One fish >24” allowed for recreational fishers

*To comply with the FMP requirements, Georgia increased their minimum size in 2014 from 10” to 14”.

**On January 1, 2014, North Carolina implemented a 14”-25” slot limit and 10 fish per person per day for their recreational fishery and 14”-25” slot limit and 500 lbs trip limit in the commercial fishery.

Table 2. Commercial landings (pounds) of black drum by state, 2003-2013. (Source: personal communication with NMFS Fisheries Statistics Division, Silver Spring, MD and ACCSP, Arlington, VA, except where noted below)

Year	NJ	DE	MD	VA	NC	SC	GA	FL	Total
2003			631	111,554	90,525		*		289,312
2004	15,202	4,092	1,039	64,823	62,445		*	12,653	160,254
2005	1,970	10,059	165	66,660	44,989		*	5,249	129,092
2006	16,454	70,097	552	65,973	125,214		*	3,975	282,265
2007	1,218	37,704	172	91,385	148,231		*	12,770	291,480
2008	1,487	9,563	*	69,825	301,998	*	*	19,348	402,221
2009	6,408	30,551	*	82,437	148,994		*	15,710	284,100
2010	3,079	49,535	*	69,659	69,194		*	15,679	207,146
2011	3,130	49,514	*	56,747	56,083		*	22,333	187,807
2012	19,017	10,828	558	98,789	94,352	*	0	14,302	237,846
2013	16,251	24,507	524	87,730	127,170	*	*	28,450	284,632

*indicates confidential landings because less than three dealers reported.

Table 3. Recreational landings (pounds) of black drum by state, 1981-2013. (Source: personal communication with NMFS Fisheries Statistics Division, Silver Spring, MD)

Year	NJ	DE	MD	VA	NC	SC	GA	FL	Total
1981	0	0	0	95,051	0	3,495	7,614	111,369	217,529
1982	0	0	0	0	2,720	13,222	6,278	253,705	275,925
1983	69,193	0	603,101	706,113	0	61,594	6,765	328,922	1,775,688
1984	0	0	0	38,672	0	5,452	31,848	549,047	625,019
1985	0	50	43,946	301,264	3,838	63,206	37,646	467,715	917,665
1986	103,942	3,220	219,916	395,311	62,146	24,503	52,558	330,239	1,191,835
1987	0	623	0	462,348	51,463	61,011	45,848	230,085	851,378
1988	0	0	0	36,203	79,484	60,861	28,804	258,667	464,019
1989	0	0	192,996	54,086	2,170	44,234	44,715	131,163	469,364
1990	0	2,378	0	8,147	3,767	22,270	51,723	103,101	191,386
1991	0	1,399	0	83,090	10,558	13,878	96,295	428,316	633,536
1992	0	0	0	237,596	20,082	30,276	30,037	485,267	803,258
1993	0	1,153	0	1,087	31,474	43,092	26,842	326,596	430,244
1994	0	0	0	2,807	92,749	15,801	99,814	484,657	695,828
1995	0	0	149,158	20,685	227,582	66,787	53,721	319,812	837,745
1996	0	4,027	0	97,782	172,959	68,865	8,635	330,368	682,636
1997	0	11,372	0	36,130	156,981	190,835	28,366	186,417	610,101
1998	0	15,499	0	91,296	102,534	51,655	19,004	368,574	648,562
1999	0	2,203	8,498	0	170,793	81,777	12,058	430,690	706,019
2000	0	6,381	17,207	12,097	259,623	276,622	188,957	1,036,211	1,797,098
2001	165,041	356	0	331	188,201	16,813	32,496	903,239	1,306,477
2002	9,492	5,930	10,246	14,554	474,619	58,679	24,880	233,136	831,536
2003	214,250	0	12,282	96,730	355,717	243,887	135,127	535,717	1,593,710
2004	809,306	2,592	20,891	11,880	221,925	30,190	57,953	411,968	1,566,705
2005	519,635	25,945	0	83,349	63,161	58,997	46,485	520,948	1,318,520
2006	792,896	23,607	25,212	26,834	162,932	63,024	33,147	452,507	1,580,159
2007	202,375	14,830	0	238,718	220,454	71,471	84,495	576,048	1,408,391
2008	2,998,236	19,795	0	497,913	524,138	115,043	244,350	817,806	5,217,281
2009	1,435,892	43,001	0	1,036,270	121,038	42,776	30,203	464,661	3,173,841
2010	251,577	76,316	48,166	8,203	305,517	114,281	169,331	516,412	1,489,803
2011	126,647	15,844	0	284,264	151,407	46,848	19,504	867,708	1,512,222
2012	13,718	2,869	0	5,508	243,965	103,088	59,278	315,841	744,267
2013	41,551	5,486	0	30,749	713,047	102,429	59,219	571,489	1,523,970

Table 4. Recreational landings (numbers) of black drum by state, 1981-2013. (Source: personal communication with NMFS Fisheries Statistics Division, Silver Spring, MD)

Year	NJ	DE	MD	VA	NC	SC	GA	FL	Total
1981	0	1,502	0	2,874	0	8,642	3,665	54,969	71,652
1982	0	0	0	0	1,682	11,028	8,464	172,414	193,588
1983	2360	0	13,308	30,797	0	27,161	9,867	179,691	263,184
1984	0	0	1,915	1,886	0	7,575	14,239	240,470	266,085
1985	0	114	937	5,630	5,196	16,810	38,835	163,720	231,242
1986	2798	14,605	5,668	11,767	18,697	21,108	55,040	259,168	388,851
1987	0	943	3,019	11,760	41,644	27,347	40,390	233,092	358,195
1988	0	0	0	1,225	10,553	15,568	21,525	107,293	156,164
1989	0	0	4,284	1,188	394	9,125	39,162	36,922	91,075
1990	0	1,704	0	840	2,112	15,048	16,227	52,741	88,672
1991	0	2,240	0	1,153	8,712	5,121	32,697	154,133	204,056
1992	0	0	0	5,330	7,877	13,600	19,021	171,190	217,018
1993	0	3,786	0	1,827	32,184	16,136	20,736	85,739	160,408
1994	0	0	0	1,411	53,345	8,635	18,254	106,267	187,912
1995	0	0	4,064	3,505	272,426	26,774	25,056	56,086	387,911
1996	0	206	0	3,993	134,926	28,033	6,718	77,295	251,171
1997	0	411	0	643	53,107	43,432	9,997	66,691	174,281
1998	0	412	649	3,271	44,822	14,073	5,378	112,404	181,009
1999	0	714	528	10,403	116,407	50,997	5,572	122,718	307,339
2000	0	1,194	964	2,708	113,205	63,284	62,637	235,869	479,861
2001	7983	1385	0	1,200	144,088	11,570	13,360	207,575	387,161
2002	5496	3314	3,358	4,547	197,211	28,376	23,074	67,024	332,400
2003	15828	0	2,158	11,431	273,024	114,905	43,902	137,191	598,439
2004	15152	320	2,351	2,485	97,262	18,384	18,568	94,967	249,489
2005	19998	1303	0	9,439	75,924	83,874	20,355	103,462	314,355
2006	42070	11462	701	1,556	92,956	93,364	20,080	66,415	328,604
2007	21095	4152	0	21,697	209,372	96,494	50,670	144,434	547,914
2008	74982	6973		26,097	359,702	54,490	91,777	175,195	789,216
2009	35782	1151		21,535	92,058	18,578	15,610	126,384	311,098
2010	8593	1450	2,731	730	122,709	33,178	69,547	127,214	366,152
2011	8590	918	0	30,386	211,396	13,660	10,590	236,625	512,165
2012	526	111	0	1,577	139,363	28,006	19,134	74,596	263,313
2013	4,582	820	0	1,944	363,466	35,994	18,290	188,578	613,674

Table 5. Recreational alive releases and dead discards (numbers) of black drum by state, 1981-2013. (Source: personal communication with NMFS Fisheries Statistics Division, Silver Spring, MD.)

Year	NJ	DE	MD	VA	NC	SC	GA	FL	Total
1981		0		0		0	1,008	2,300	3,308
1982					0	417	0	0	417
1983	0		0	0		0	852	2,832	3,684
1984			646	0		1,360	0	9,296	11,302
1985		0	564	0	0	0	3,250	12,677	16,491
1986	0	0	138	0	7,659	1,091	8,988	43,219	61,095
1987		452	0	0	473	485	6,519	37,558	45,487
1988				0	6,186	892	2,975	45,339	55,392
1989			0	0	213	1,575	8,892	11,455	22,135
1990		752		0	3,291	824	2,002	41,648	48,517
1991	996	273		0	1,931	0	11,664	134,080	148,944
1992				0	731	0	5,998	51,623	58,352
1993		2,270		4,214	6,053	2,375	2,487	87,653	105,052
1994				2,601	4,969	5,655	2,241	98,061	113,527
1995			1,250	19,077	101,866	2,829	1,114	47,413	173,549
1996		0	2,534	14,945	55,227	2,214	363	55,446	130,729
1997		0	1,106	6,671	35,537	6,380	213	115,821	165,728
1998		2,893	0	17,432	50,208	1,548	6,312	182,776	261,169
1999		0	0	1,859	75,409	14,086	2,504	166,416	260,274
2000		0	0	886	56,741	47,605	20,643	162,054	287,929
2001	6,319	21,271	1,173	28,902	139,525	7,219	13,820	198,900	417,129
2002	20,246	3,332	7,998	44,056	82,297	11,697	18,851	117,831	306,308
2003	1,003	3,132	0	20,588	128,873	4,051	27,804	122,288	307,739
2004	0	524	0	16,093	98,385	19,076	42,326	123,266	299,670
2005	21,172	12,960	2,525	19,620	95,255	17,847	10,458	94,682	274,519
2006	29,024	1,031	0	81,509	93,229	27,296	29,285	114,635	376,009
2007	27550	3,980	470	27,351	226,463	37,763	34,869	311,372	669,818
2008	223332	5,961	0	9,327	188,680	124,748	65,881	274,681	892,610
2009	105053	1,111	0	10,594	69,484	35,395	22,622	155,665	399,924
2010	25592	1,575	1,744	19,637	102,348	25,677	39,981	249,265	465,819
2011	1775	5	7,971	60,724	104,286	20,483	4,671	126,563	326,478
2012	10498	356	19,351	7,182	91,895	67,242	19,765	165,569	381,858
2013	0	27,135	6,414	22,182	121,306	78,262	10,066	291,543	556,908

paragraph (b)(2)(iii), by revising paragraph (c)(1)(ii), by removing paragraph (c)(1)(iii), and by adding paragraph (c)(2)(iii).

The revisions and additions read as follows:

§ 54.410 Subscriber eligibility determination and certification.

* * * * *

(b) * * *

(1) * * *

(ii) Must securely retain copies of documentation demonstrating a prospective subscriber's income-based eligibility for Lifeline consistent with § 54.417.

(2) * * *

(iii) An eligible telecommunications carrier must securely retain all information and documentation provided by the state Lifeline administrator or other state agency consistent with § 54.417.

* * * * *

(c) * * *

(1) * * *

(ii) Must securely retain copies of the documentation demonstrating a subscriber's program-based eligibility for Lifeline services, consistent with § 54.417.

(2) * * *

(iii) An eligible telecommunications carrier must securely retain all information and documentation provided by the state Lifeline administrator or other state agency consistent with § 54.417.

* * * * *

■ 8. Revise § 54.417 to read as follows:

§ 54.417 Recordkeeping requirements.

(a) Eligible telecommunications carriers must maintain records to document compliance with all Commission and state requirements governing the Lifeline and Tribal Link Up program for the three full preceding calendar years and provide that documentation to the Commission or Administrator upon request. Eligible telecommunications carriers must maintain the documentation required in §§ 54.404 (b)(11), 54.410(b), 54.410 (c), 54.410(d), and 54.410(f) for as long as the subscriber receives Lifeline service from that eligible telecommunications carrier, but for no less than the three full preceding calendar years.

(b) Prior to the effective date of the rules, if an eligible telecommunications carrier provides Lifeline discounted wholesale services to a reseller, it must obtain a certification from that reseller that it is complying with all Commission requirements governing the Lifeline and Tribal Link Up program. Beginning on the effective date of the rules, the eligible telecommunications carrier must retain the reseller certification for the three full preceding calendar years and provide that documentation to the Commission or Administrator upon request.

(c) Non-eligible telecommunications carrier resellers that purchased Lifeline discounted wholesale services to offer discounted services to low-income consumers prior to the effective date of the rules, must maintain records to document compliance with all Commission requirements governing the Lifeline and Tribal Link Up program for the three full preceding calendar years and provide that documentation to the Commission or Administrator upon request.

[FR Doc. 2015–17186 Filed 7–13–15; 8:45 am]

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 622

[Docket No. 140819687–5583–02]

RIN 0648–BE40

Fisheries of the Caribbean, Gulf of Mexico, and South Atlantic; Coastal Migratory Pelagic Resources in the Gulf of Mexico and Atlantic Region; Framework Amendment

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Final rule.

SUMMARY: In this final rule, NMFS implements management measures described in Framework Amendment 2 to the Fishery Management Plan (FMP) for the Coastal Migratory Pelagic (CMP) Resources in the Gulf of Mexico and Atlantic Region (Framework Amendment 2), as prepared and submitted by the South Atlantic and Gulf of Mexico Fishery Management Councils (Councils). This final rule removes the unlimited commercial trip limit for Spanish mackerel in Federal waters off the east coast of Florida that began on weekdays beginning December 1 of each year. The modifications to the commercial trip limit system better fit the current fishery conditions and catch limits for Atlantic migratory group Spanish mackerel in the southern zone, while increasing social and economic benefits of the CMP fishery.

DATES: This final rule is effective August 13, 2015.

ADDRESSES: Framework Amendment 2 to the FMP, which includes an environmental assessment and a regulatory impact review, is available from *www.regulations.gov* or the Southeast Regional Office Web site at *http://sero.nmfs.noaa.gov.*

FOR FURTHER INFORMATION CONTACT: Karla Gore, NMFS Southeast Regional Office, telephone: 727–824–5305, or email: *karla.gore@noaa.gov.*

SUPPLEMENTARY INFORMATION: The CMP fishery of the South Atlantic and Gulf of Mexico (Gulf) includes Spanish mackerel and is managed under the CMP FMP. The FMP was prepared by the Councils and implemented through regulations at 50 CFR part 622 under the authority of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act).

On April 9, 2015, NMFS published a proposed rule for the framework action and requested public comment (80 FR 19056). The proposed rule and the framework action set forth additional rationale for the actions contained in this final rule. A summary of the actions implemented by this final rule is provided below.

Management Measure Contained in This Final Rule

This final rule modifies the commercial trip limit system for Atlantic migratory group Spanish mackerel. Changes in fishery conditions, such as an increase of the commercial annual catch limit (ACL), have necessitated modifications to some elements of the trip limit system.

This final rule streamlines the commercial trip limit system for the Atlantic migratory group Spanish mackerel by eliminating the unlimited weekday Spanish mackerel trip limit in Federal waters off the eastern coast of Florida. The final rule retains the adjusted quota, which provides a buffer to help prevent the commercial sector from exceeding the commercial ACL.

This final rule establishes a commercial trip limit of 3,500 lb (1,588 kg) for Spanish mackerel in Federal waters offshore of South Carolina, Georgia, and eastern Florida, which is the area established as the southern zone by the final rule implementing Amendment 20B to the FMP (80 FR 4216, January 27, 2015). When 75 percent of the adjusted southern zone quota (2,417,330 lb (1,096,482 kg)) is met or is projected to be met, the commercial trip limit will be reduced to 1,500 lb (680 kg). When 100 percent of the adjusted southern zone commercial quota is met or projected to be met, the commercial trip limit will be reduced to

500 lb (227 kg) until the end of the fishing year or until the southern zone commercial quota is met or is projected to be met, at which time the commercial sector in the southern zone would be closed to harvest of Spanish mackerel. The modified system of trip limits described above would control harvest more effectively.

Comments and Responses

NMFS received two comments on the proposed rule, one from a fishing organization that expressed support of the proposed action, and one from a Federal agency that stated it had no comment. NMFS did not receive any substantive comments on the proposed rule.

Classification

The Regional Administrator, Southeast Region, NMFS determined that this final rule is necessary for the conservation and management of Atlantic migratory group Spanish mackerel and is consistent with Framework Amendment 2, the FMP, the Magnuson-Stevens Act, and other applicable laws.

This final rule has been determined to not be significant for purposes of Executive Order 12866.

The Chief Counsel for Regulation of the Department of Commerce certified to the Chief Counsel for Advocacy of the Small Business Administration during the proposed rule stage that this rule would not have a significant economic impact on a substantial number of small entities. The factual basis for this determination was published in the proposed rule and is not repeated here. NMFS received no comments regarding the certification and has not received any new information that would affect its determination. As a result, a final regulatory flexibility analysis was not required and none was prepared.

List of Subjects in 50 CFR Part 622

Annual catch limit, Fisheries, Fishing, Gulf of Mexico, Quotas, South Atlantic, Spanish mackerel.

Dated: July 8, 2015.

Samuel D. Rauch III,

Deputy Assistant Administrator for Regulatory Programs, National Marine Fisheries Service.

For the reasons set out in the preamble, 50 CFR part 622 is amended as follows:

PART 622—FISHERIES OF THE CARIBBEAN, GULF OF MEXICO, AND SOUTH ATLANTIC

■ 1. The authority citation for part 622 continues to read as follows:

Authority: 16 U.S.C. 1801 *et seq.*

■ 2. In § 622.385, paragraphs (b)(1) and (2) are revised to read as follows:

§ 622.385 Commercial trip limits.

* * * * *

(b) * * *

(1) *Atlantic migratory group.* The following trip limits apply to vessels for which commercial permits for Spanish mackerel have been issued, as required under § 622.370(a)(3).

(i) Northern zone. Spanish mackerel in or from the EEZ may not be possessed on board or landed in a day from a vessel for which a permit for Spanish mackerel has been issued, as required under § 622.370(a)(3), in amounts exceeding 3,500 lb (1,588 kg).

(ii) Southern zone. Spanish mackerel in or from the EEZ may not be possessed on board or landed in a day from a vessel for which a permit for Spanish mackerel has been issued, as required under § 622.370(a)(3)—

(A) From March 1 until 75 percent of the adjusted quota for the southern zone has been reached or is projected to be reached, in amounts exceeding 3,500 lb (1,588 kg).

(B) After 75 percent of the adjusted quota for the southern zone has been reached or is projected to be reached, in amounts exceeding 1,500 lb (680 kg).

(C) After 100 percent of the adjusted quota for the southern zone has been reached or is projected to be reached, and until the end of the fishing year or the southern zone's quota has been reached or is projected to be reached, in amounts exceeding 500 lb (227 kg). See § 622.384(e) for limitations regarding Atlantic migratory group Spanish mackerel after the southern zone's quota is reached.

(2) For the purpose of paragraph (b)(1)(ii) of this section, the adjusted quota for the southern zone is 2,417,330 lb (1,096,482 kg). The adjusted quota for the southern zone is the quota for the Atlantic migratory group Spanish mackerel southern zone reduced by an amount calculated to allow continued harvest of Atlantic migratory group Spanish mackerel at the rate of 500 lb (227 kg) per vessel per day for the remainder of the fishing year after the adjusted quota is reached. Total commercial harvest in the southern zone is still subject to the southern zone quota and accountability measures. By filing a notification with the Office of the Federal Register, the Assistant Administrator will announce when 75 percent and 100 percent of the adjusted quota are reached or are projected to be reached.

* * * * *

[FR Doc. 2015–17192 Filed 7–13–15; 8:45 am]

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