Atlantic States Marine Fisheries Commission

Atlantic Menhaden Management Board

May 2, 2012
8:00 a.m. – 12:00 p.m.
Alexandria, VA

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 Proceedings from February 8, 2012

3. Public Comment 8:10 a.m.

4. Options to Define Ecological Reference Points (*J. Brust)* **Possible Action** 8:15 a.m.
   - Review recommendation to adopt decision analysis framework for developing ecological based reference points

5. Public Information Document to Amendment 2 9:00 a.m.
   - Review PID Options (*M. Waine)*
   - Public Comment Summary (*M. Waine*)
   - Advisory Panel Report (*B. Windley)*

6. Draft Amendment 2 9:30 a.m.
   - Provide Guidance to Plan Development Team for Draft Amendment 2 (*L. Daniel*)

7. Other Business/Adjourn 12:00 p.m.

The meeting will be held at the Crown Plaza, 901 North Fairfax Street, Alexandria, VA 22314; 703-683-6000

MEETING OVERVIEW

Atlantic Menhaden Management Board Meeting
Wednesday, May 2, 2012
8:00 a.m. – 12:00 p.m.
Alexandria, VA

Chair: Louis Daniel (NC) Assumed Chairmanship: 3/11	Technical Committee Chair: Jeff Brust (NJ)	Law Enforcement Committee Representative: Lloyd Ingerson (MD)
Vice Chair: Robert Boyles	Advisory Panel Chair: William Windley (MD)	Previous Board Meeting: February 8, 2012
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 February 8, 2012

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. Options to Define Ecological Reference Points (8:15 a.m. -9:00 a.m.) Possible Action

Background

- The Board was presented an Alternative Reference Point Guidance Document at the March 2011 Board meeting (**Briefing CD**)
- The Board tasked the Multispecies Technical Committee to explore ecological reference points for use in managing Atlantic menhaden.
- The MSTC has developed a decisional framework along with other alternative options to pursue the development of ecological based reference points. (**Briefing CD**)

Presentations

- Options to Define Ecological Reference Points by J. Brust

Board actions for consideration at this meeting

- Approve an approach to Define Ecological Reference Points

5. Public Information Document to Amendment 2 (9:00 a.m. – 9:30 a.m.)

Background

- The PID scopes potential management options to achieve the new fishing mortality reference points **(Briefing CD)**. It was approved for public comment in February 2012.
- Public comment was gathered in February March and April **(Briefing CD and Supplemental Materials)**.
- The Advisory Panel reviewed the PID and formulated recommendations for management

(Supplemental Materials).

Presentations

- Overview of options and public comment summary by M. Waine
- Advisory Panel report by B. Windley **(Supplemental Materials).**

6. Draft Amendment 2

Background

- The Board needs to provide the Plan Development Team with guidance to draft Amendment 2 to the Atlantic Menhaden FMP.
- Decision Document for Draft Amendment 2 (**Supplemental Materials**)

7. Other Business/Adjourn

DRAFT PROCEEDINGS OF THE

ATLANTIC STATES MARINE FISHERIES COMMISSION

ATLANTIC MENHADEN MANAGEMENT BOARD

Crowne Plaza Hotel - Old Town
Alexandria, Virginia
February 8, 2012

TABLE OF CONTENTS

INDEX OF MOTIONS

ATTENDANCE

Board Members

Terry Stockwell, ME, proxy for P. Keliher (AA)
Steven Train, ME (GA)
Sen. Brian Langley, ME (LA)
Dennis Abbott, NH, Legislative Proxy
Doug Grout, NH (AA)
G. Ritchie White, NH (GA)
Rep. David Watters, NH (LA)
David Pierce, MA, proxy for P. Diodati (AA)
Bill Adler, MA (GA)
Rep. Sarah Peake, MA (LA)
Jocelyn Cary, MA, proxy for Rep. Peake (LA)
Mark Gibson, RI, Administrative proxy
Robert Ballou, RI (AA)
Bill McElroy, RI (GA)
Rick Bellavance, RI, Proxy for Rep. Martin (LA)
David Simpson, CT (AA)
Dr. Lance Stewart, CT (GA)
Rep. Craig Miner, CT (LA)
James Gilmore, NY (AA)
Pat Augustine, NY (GA)
Brian Culhane, NY, proxy for Sen. Johnson (LA)
Peter Himchak, NJ, proxy for D. Chanda (AA)
Adam Nowalsky, NJ, proxy for Asm. Albano (LA)
Tom Fote, NJ, (GA)
David Saveikis, DE (AA)
Jeff Tinsman, DE, Administrative Proxy
Roy Miller, DE (GA)
Bernie Pankowski, DE, proxy for Sen.Venables (LA)
Tom O'Connell, MD (AA)
Lynn Fegley, MD, Administrative proxy
Bill Goldsborough, MD (GA)
Russell Dize, MD, proxy for Sen. Colburn (LA)
Jack Travelstead, VA, Administrative Proxy
Catherine Davenport, VA (GA)
Louis Daniel, NC (AA)
Michelle Duval, NC, Administrative proxy
Mike Johnson, NC, proxy for Sen. Wainwright (LA)
John Frampton, SC (AA)
Robert Boyles, Jr., SC (LA)
Patrick Geer, GA, proxy for S. Woodward (AA)
John Duren, GA (GA)
Aaron Podey, FL (AA)
Steve Meyers, NMFS
Jaime Geiger, USFWS
A.C. Carpenter, PRFC

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

Ex-Officio Members

Jeff Brust, Technical Committee Chair

Staff

Vince O'Shea
Robert Beal
Mike Waine
Mark Robson

Guests

Tom McCloy, NJ DFW
Carrie Kennedy, MD DNR
Tommie O'Connell, MD DNR
John Clark, DE DFW
Charles Lynch, NOAA
Alexei Sharov, MD DNR
Derek Orner, NMFS
John Clark, DE DFW
Jason McNamee, RI DFW
Wilson Laney, USFWS
Ellen Cosby, PRFC
Mike Armstrong, MA DMF
Dave Ellenton, Cape Seafoods
Raymond Kane, CHOIR
Rob O'Reilly, VA MRC
Skip Feller, VA Beach, VA
Jeff Kaelin, Lund's Fisheries
Ken Himman, NCWC
Dick Brame, CCA
Chris Moore, CBF
Roger Fleming, Earthjustice, DC
A.J. Erskine, Bevans Oyster VA
Jimmy Kellum, Weems, VA
Benson Chiles, Chiles Consulting, NJ
Steve Rucheman, MD DAG
Steve Weiner, CHOIR
Dave Wallace, Wallace & Assoc., Cambridge, MD

Guests (cont'd)

Pete Jensen, Wallace & Assoc., Cambridge, MD
Matt Roney, Johns Hopkins Univ.
Thomas Miller, FORVA
Jerry Benson, Menhaden Coalition
Ken Hastings Mason Springs
Jeff Reichle, Lund's Fisheries
Theresa Labriola, Pew Env. Grp.
Kristen Cevoli, Pew Env. Grp.
Greg Wells, Pew Env. Grp.
Peter Baker, Herring Alliance
Ben Landry, Omega Protein
Monty Diehl, Omega Protein
Ron Lukens, Omega Protein
Janice Plante, Commercial Fisheries News
Patrick Paquette, MSBA
Shaun Gehen, KellyDrye Warren, DC
Joseph Hickemeyer, MA

The Atlantic Menhaden Management Board of the Atlantic States Marine Fisheries Commission convened in the Presidential Ballroom of the Crowne Plaza Hotel, Alexandria, Virginia, February 8, 2012, and was called to order at 9:00 o'clock a.m. by Chairman Louis Daniel.

CALL TO ORDER

CHAIRMAN LOUIS DANIEL: Welcome to the Atlantic Menhaden Board. We don't have quite the crowd at this meeting as we had in Boston and maybe we'll get some things done. Just to sort of set the stage, the commission at its Boston meeting set our new reference points and targets at 15 and 30. I think we've got ourselves on the road to taking the necessary action to protect the stock.

Now what we need to try to do is come up with a plan of attack here through this amendment to implement those new reference points and to protect the fishery and the fishermen and be able to allow continued access for this resource at a perhaps more responsible level. With that, I am Louis Daniel. It's my first meeting as vice-chairman and I appreciate all the kind words I've received around the table and congratulations to our Chairman Paul Diodati. His first meeting seems to be going well.

APPROVAL OF AGENDA AND PROCEEDINGS

CHAIRMAN LOUIS DANIEL: You've got your agenda and our minutes from our November meeting. Is there anyone that needs to discuss that agenda or those minutes; any corrections; anything necessary to do there? If not, by consent we will approve the agenda and the proceedings.

PUBLIC COMMENT

CHAIRMAN LOUIS DANIEL: I don't have anyone signed to speak from the public, but would allow, if somebody has something they would to say that is not on the agenda, opportunity for that this time. Is there anyone in the audience that would like to speak? Yes, sir.

MR. JAMES KELLUM: Mr. Chairman, I am Jimmy Kellum from Virginia. I am a purse seiner from Virginia. I would like to comment that before the board takes action to release a public information document that they consider coming up with a plan to have a unified data collection system from each state.

It seems apparent to me that those of us who for 20 or 25 years have been keeping daily records of our menhaden catch and landings are going to be the first and most penalized under our new quota system, whatever these management measures are. I think it's important for us to come up with a unified system.

There is a bait fishery in Florida that has no numbers. There is a pound net fishery in Maryland. At the Boston meeting none of the information from New Jersey was read to the group. The board doesn't even know how many menhaden is being landed or how many different gear types are being used. Before we fast track this thing through – and I have seen the list for the fast track – I implore you to consider unifying all the states into one data collection. Thank you.

CHAIRMAN DANIEL: Thank you, Mr. Kellum. Seeing no other hands in the audience and none from the board, we will move into our first report, which is our technical committee report.

TECHNICAL COMMITTEE REPORT

MR. JEFF BRUST: My name is Jeff Brust from New Jersey Marine Fisheries. I'm the chair of the Menhaden Technical Committee. I will go through some results of a task that the board has put forward to us. We were asked to develop a methodology for calculating allowable harvest levels to meet our new fishing mortality reference points.

Again, the threshold is 15 percent maximum spawning potential, which is about an F of 1.32, and the target of 30 percent maximum spawning potential of about 0.62. The board requested that we look at these harvest levels that would achieve these reference points; the threshold in one year and the target in a range of one to five years to allow some phase in to reach the target.

Inherent in this task was we had to come up with a method to incorporate terminal year uncertainty from the stock assessment. At this point we have a prototype methodology developed. We have some fine tuning that we want to do to try and improve the methodology. Even if we didn't have those things in mind, these numbers cannot be final because we need input from the board to help direct where we're going with this.

Also, we will be doing a stock assessment update in 2012, and we will use the terminal year estimates from that stock assessment to develop

the final numbers that the board will have to work from. The methodology is projection based. It's very similar to all the other projections that we have presented to the board in the last couple of years.

The assumptions that we've made are consistent with the assumptions that we've made for all those other projection exercises. We have got the same input data decisions; and as I said, we have some ideas for modifying the process slightly, but everything is consistent at this point with what you have seen in the past.

The results are probability based; and some of the input that we need from the board, the board at some point will need to make a decision on an acceptable risk level. I don't think we need that to move forward with our analysis, but at some point the board will need to make a decision so that they can move forward.

A little bit more specifics on the methodology; we have taken the terminal numbers at age from the 2009 stock assessment. We have made some assumptions about natural mortality, about recruitment and about allocation among the sectors and a couple other different things. The biggest assumption at this point is the recruitment. That seems to have the biggest effect on the results. Right now we are assuming that there is no spawner-recruit relationship.

One of the things that we want to do is look into that. You might recall that one of the benefits of going with the maximum spawning potential reference points is that hopefully that we will increase the spawning stock biomass, which should lead to an increase in recruitment in good years. Using no spawner-recruit relationship is very conservative.

We want to look at possibly identifying some spawner-recruit relationship to show some feedback between increasing spawning stock and the recruitment levels. Those are the inputs and the assumptions that we've made, and then to run the analysis we looked at a number of different constant landing levels to see how the stock would respond. We project the population through 2017, 2,000 iterations each time. For each year we evaluate the probability that that harvest level achieves either the target level or the threshold level.

Again, the results are conditional on assumptions of the recruitment level. One point of information that we need from the board is the allocation among the sectors. Right now we're assuming it's 75 percent reduction and 25 percent bait. That's the average over the last couple of years. If the board wants to reallocate harvest among the fisheries, we will need to know that because it will impact the results because they do have different patterns.

Just a quick example of the results that you get out of this; the blue line is the probability of achieving the threshold fishing mortality rate and the red line is the probability of achieving the target fishing mortality rate. This example uses a harvest level of 175,000 metric tons per year as I said allocated 75 percent to the reduction and 25 percent to bait.

What this is showing is that if we set the harvest level at 175,000 metric tons, in 2013 we'd have about a 12 percent probability of achieving the threshold fishing mortality rate and a very, very slim chance of reaching the target level. If we kept 175,000 metric tons harvest through 2017, we'd have about a 55 or 60 percent chance of being at the threshold fishing mortality level and about a 10 or 15 percent chance of being at the target fishing mortality level.

This is just one example. Hopefully, you guys can all see this. As I said, we looked at a range of harvest levels. Up in the top left corner it starts at 75,000 metric tons, 100, 125, 150, 175, 200 and 225,000 metric tons per year. You can see from the top left towards the bottom the higher the harvest level is the lower the chance that you're going to meet these reference point levels.

At 75,000 metric tons between now and 2017, by the end we have a very good chance, almost a hundred percent chance that we will be at our reference points, but in the lower left-hand corner you see if we keep harvest at about where we are now, 225,000 metric tons, we will have a very low chance of meeting either of those reference point levels.

Again, I want to stress these are very preliminary numbers. We have some ideas that we want to look at to try and improve this. We need some input from the board and we need the results from the 2012 stock assessment update, so these are just preliminary numbers. This is just an example of what you might be looking at during the August or November meeting in terms of harvest levels that you need to implement to get to your reference points.

Okay, so moving forward, yes, we need a couple of decisions by the board. We don't need it for our work, but as I said at some point the board

will need to define an acceptable level of risk, the probability of achieving the reference point. This one we do need; we need some input from you guys on the allocation among the sectors. Should it stay at what it has been for the last five or ten years? Do you want to shift the allocation to the bait or to the reduction fishery because that will influence the results.

And then, as I said, the technical committee had some things that we need to do before we can give you the final numbers. We're going to investigate some fine-tuning ideas. We need to complete the 2012 stock assessment update. We'll need to incorporate the decisions from the board and then we can run the final calculations.

And just in case anyone is interested in what the fine tuning is, the method I presented assumes a constant level of harvest so a constant harvest level every year for the duration of the projection. We also want to look at implementing a constant fishing mortality rate and getting a distribution of a harvest level that reaches the reference points; so if we plug in F of 0.62 it will give us a range of harvest levels that reach that fishing target.

We want to link the juvenile index and the recruitment numbers. As I said before, we want to investigate the spawner-recruit function, and we want to try and incorporate the bootstrap results from the terminal year of the stock assessment and use those as starting points for each of our projection numbers. That concludes my report.

CHAIRMAN DANIEL: Nicely done! Any questions for the technical committee? Jack.

MR. JACK TRAVELSTEAD: Jeff, you have suggested that there are two things you need advice on from the board, the level of risk relative to the probability of achieving the reference points and then this allocation issue between I guess bait and reduction. I guess my question is how quickly do you need that?

It seems to me those would be two questions that we should submit to the public as part of the PID that we're getting ready to look at here today and get feedback from the public and the industry on those and then at that point consider that and then provide that advice back to the TC unless you need it more quickly.

MR. BRUST: In terms of the acceptable risk level, I don't think we need that to move forward. I just wanted to give the board a warning that at some point that decision is going to need to be made. It probably wouldn't be a bad idea to put that in the PID and request input from the public.

As far as the allocation among the sectors, we will need that to do our final calculations. I don't know the timeline for implementing the regulations, probably at the November meeting of this year. To run the calculations and provide ample time for the technical committee to review them and all that, I would those decisions would have to made by the August meeting so that we can take back to the technical committee and do the final calculations in preparation for the November meeting.

MR. A.C. CARPENTER: Can you remind me of what the schedule for the completion of the stock assessment is, when that will be completed and peer reviewed?

MR. MICHAEL WAINE: This is actually in the PID presentation but we'll hit it now. Right now the board is considering approval of the Draft PID, and in March we will take the document out to public comment. In April the stock assessment update will begin by compiling data for that update.

In May the board will review – I'm presenting the simultaneous schedule with the amendment and the stock assessment update. The stock assessment update steps are highlighted in yellow on this presentation. In May the board would review the public comment and give direction on Draft Amendment 2, and also in May the stock assessment modeling would occur. In June Draft Amendment 2 would be prepared alongside the assessment workshop. Everything would be finalized in July and ready for the August meeting. Essentially the stock assessment update will coincide with the draft amendment and be presented to the board essentially at the same time at the August meeting.

MS. LYNN FEGLEY: Compliments, Jeff, to you and the TC for a nice job. I agree with Jack that these two questions would be well suited for public input. I'm wondering about the allocation question, though. If you can give us some idea of how sensitive the results are to the allocation and what happens; in other words, if you shift the allocation which way, how does that impact your probabilities over time of achieving the targets and thresholds?

MR. BRUST: Unfortunately, I personally cannot at this time answer that. What I can say, though, is they do have the different selectivities. The bait fishery tends to harvest the larger fish and the reduction fishery the smaller fish. I do not know what specifically providing more allocation to one or the other would do to the results. I can find that out probably and get back to you.

MS. FEGLEY: I think that would be interesting for the board to know.

MR. PETER HIMCHAK: Mr. Chairman, I believe compliance reports are due April 1st or May 1st – April 1st, maybe. Okay, what I would ask the technical committee is to particularly focus on the accuracy of the bait landings on each state. As Mr. Kellum pointed out in the public comment period, there are segments of the bait industry that are well monitored and landings are accounted for quite accurately, and it would appear to me that they could likely be the most vulnerable in a reduction-setting process.

Our purse seine landings, again, we can account very accurately for who, when and where, but if there are bait landings that are not accounted for, then essentially they won't be factored into the allocation and then they may not even be addressed in any kind of subsequent board action. I would just ask states to be very careful in looking at potential sources of underreporting for Atlantic menhaden for bait.

MR. DOUGLAS GROUT: As far as providing input on allocation between the different gear types, first of all what I would suggest is that maybe we bound it, you know, have a status quo and maybe having 10 percent increase in the reduction fishery scenario and then a scenario where 10 percent more goes to the bait, only because I think this allocation really should be something that is market driven – what is the market – and not a management-driven scenario, so we just would need to know the information as to what the effect is by having those changes occurring.

Obviously, I think we wouldn't want to have any drastic changes occur between the two. As far as the risk, I would state that, yes, public comment should be taken on this, but I think we should give them some ideas about what we think would be acceptable risk to our board and have a couple of options.

I know from my experience on the council I think we need to have a minimum of a 50 percent chance of attaining it. Oftentimes at least in the New England Council we go up to 75 percent chance of attaining those things. I think those would be a good start for putting together some acceptable risk. I would also might light to charge the plan development team with looking at other management entities to see if they have any other acceptable levels of risk that they've used in their fisheries management scenarios; you know, look at the different councils, look at the other commissions and see if they've implemented any kind of risk policies and to see if there is anything different between that 50 to 75 percent bound. Thank you.

CHAIRMAN DANIEL: Very good points. Bill Adler.

MR. WILLIAM A. ADLER: What A.C. had brought up about the particular schedules got me going here on this. On Page 4 where you have the schedule of the process, is this correct that in October of 2012 we review the public comment draft, we prepare a final amendment and we approve the final amendment all in one meeting; is that normally what we are doing there?

MR. WAINE: The schedule would be the draft amendment would go before the board for review at the August meeting; and if approved, that would go out for public comment and we would bring public comment back on that document for what is our annual meeting, which is scheduled for October this year, and that's when the board would consider final approval of Amendment 2.

MR. ADLER: All right, so you do have all three X's in the same spot. Okay, thank you.

CHAIRMAN DANIEL: I think the intent of the board at our Boston meeting was to have management measures in place by 2013. Some very good points made around the table; just a couple of I guess maybe questions or comments from me. I think Doug's point on the allocations and economics looking at the impacts of a reduction in the bait fishery, knowing how important that fishery is to our blue crab fishery and our lobster fishery particularly – and there may be others – that may be an important caveat for us to look at.

Acceptable risk is what it is; it's how much do we want to hit and how fast do we want to get there. I thought of Mark Gibson in days of weakfish past when we looked at the spawner-recruit relationship and the recommendation or the reminder that we were way over to the far left-hand side of the spawner-recruit curve and

it's hard to discern any kind of relationship if you're at such a low level of biomass.

That may be the circumstance that we're facing here, so one thing I would ask for the board to keep in mind is that as we do ease into this reduction scenario we should be able to get some sense as to whether or not we're having a positive impact on the spawning stock biomass and any subsequent recruitment circumstances. Hopefully, within a couple of years we'll see it.

I don't think we'll have to wait until five or six years to start seeing an improved recruitment with the number of sampling programs that we have throughout the coast. I am concerned about the public comment that we received in terms of I don't know what the magnitude of those efforts that we're not capturing are. My understanding is they would be a very, very small component of the catch.

If we were to include that catch, would that result in a more optimistic or a more pessimistic stock assessment? That I'm not quite sure on, but we may be thinking here along the lines of state by state as we move forward with this. If there are concerns as indicated by the public, if states have failed to properly account for their bait harvest, then perhaps those states that have been able to account for that bait harvest, those fishermen in those states maybe should not be penalized. Is my characterization, Jeff, of the spawner-recruit relationship, is that reasonable and do you expect – my understanding when we kind of moved into this was that we should be able to see some successes even at the 15 percent early on which would allow for more harvest. Is that still the thinking of the technical committee?

MR. BRUST: Well, as we've said in the past, I think you all know the spawner-recruit relationship is very hard to discern in menhaden. It seems to be very highly environmentally driven, but the theory is, yes, by increasing the spawning stock biomass in those years when we have good environmental conditions, yes, we should see good increases in the recruitment as well.

CHAIRMAN DANIEL: Thank you. Any other questions? Jaime.

DR. JAIME GEIGER: Mr. Chairman, I think your comments were very appropriate and right on. Given the importance of the public comments we heard today, is the technical committee well aware of the implications and magnitude of some of the other bait fisheries in advance of doing the stock assessment? Could I ask you to give another review of the process and the timeline for the stock assessment, please? Thank you.

MR. BRUST: Dr. Geiger, I believe the question was are we aware of the magnitude of the bait fisheries for menhaden? Yes, we collected the bait landings by state and by gear every year and they are incorporated into the stock assessment. Perhaps I'm missing the underlying intent of the question or does that answer your question?

DR. GEIGER: No, sir, I just want to make sure that we're using all the available state information, but I also heard that there is information that also the industry and other folks have that may not necessarily be available or being utilized by the technical committee in advance of the stock assessment. I'm just curious to know is that a correct statement and are the processes in place to get that kind of information. Thank you.

MR. BRUST: To my knowledge we are using all of the available information whenever we do a benchmark assessment. This is a stock assessment update so any new available information, under the ASMFC process for updates we generally just use the same information used in the last benchmark and run the same model.

Any new available information would not be incorporated until the benchmark assessment. That is my understanding right now that we are working under an update process rather than a benchmark process. Whenever we do a benchmark, we get all the information that we can find. We beat the bushes and try to get all the information we can. Mike, you might go over the process again.

MR. WAINE: Dr. Geiger, I'm going to go through the process again and timeline in my PID presentation and that is the next agenda item, so I'll defer to that. Thanks.

CHAIRMAN DANIEL: And if the board is not confused a little bit, I am, so I'm going to clarify one thing, that I think is what the public comment was is not that we might not be using information that we have. It's that we're not collecting information in some of the states where there is a bait fishery. I believe that was the comment from the public and what was the intent there was there may be some fisheries that we're just not capturing because they're either at

such a low level or it's not considered important or whatever the case may be.

I think that might be the concern that when you start to look at allocation, by not including those in the allocation scheme, the bait fishery will be compromised by that failure of some states to account for those landings. Is that a fair characterization of the public comment? Yes, thank you. Anything else for the technical committee report? If not, Jeff, thank you very much, very well done.

We'll move on now into Mike's presentation on the PID. If we have our advisory panel chairman here, we will get his comments as well on that. If not, Mike will take care of that. And then just for your information, I will need a motion to approve this for public comment and public meetings at the conclusion.

DRAFT PUBLIC INFORMATION DOCUMENT TO AMENDMENT 2

REVIEW OPTIONS

MR. WAINE: I'll move through the draft public information document for Amendment 2 for Atlantic menhaden. This was on the briefing CD. I'm going to start with the timeline. This is the timeline specifically for Amendment 2, and then later I'll talk about the timeline of Amendment 2 and how that coincides with the stock assessment update.

The timeline for the PID is this meeting now the board is reviewing this document for public comment. In the spring the staff will take the document out for public hearings and bring back public comment at the May meeting. At that point the board will task the PDT to develop Draft Amendment 2, narrowing the focus of the document. In the summer the PDT will develop the Draft Amendment 2. At the August board meeting the board will review the draft and send that out for public comment at that point. We'll take Draft Amendment 2 out for public comment in the fall and then at the annual meeting bring back any public comment and the board will consider finalizing the document at the annual meeting.

The purpose of the PID, as was mentioned, the board selected new fishing mortality reference points at their November 2011 meeting. Those were based on maximum spawning potential and were intended to provide an increased protection for spawning adults. The threshold is an F 15 percent MSP, which is equal to 1.32; and the new target is an F 30 percent MSP, which is equal to 0.62.

Based on the terminal estimate fishing mortality rate, which is currently 2008, is equal to 2.28 so overfishing is occurring and the board must take steps to reduce fishing mortality to the new target level. The purpose of the PID is to scope a suite of potential tools to manage the fishery towards the target.

Just as a reminder, staff took out Addendum V, which was approved at the last meeting, and that contained a lot of the same information that this public information document contains as we scoped a series of management options in that document as well. An overview of the PID contains four major issues.

The first is a timeline to achieve the new fishing mortality target. It deals with timely and comprehensive catch reporting, recreational fishery management tools, commercial fishery management tools. The overarching question for this is how would the public like the Atlantic menhaden fisheries to look in the future, so I'll go through each issue now.

The timeline to achieve the target, as mentioned the board must take steps to end overfishing immediately to meet the threshold. Reducing F to the target will require a longer timeframe, so the board is considering a one- to five-year timeframe to achieve the target level. The overarching question is if reducing F occurs over a longer time period, should the reductions and landings be equal across years?

The next issue is timely catch reporting. As was discussed earlier this morning, current catch reporting does not provide complete data particularly in the bait fishery and better reporting would allow managers to monitor landings throughout the season. It would also allow to more easily evaluate the effectiveness of a particular management tool such as a quota. The question to the public here is how should the landings reporting systems be improved?

The next issue is recreational fishery management measures. Menhaden is an important bait in many recreational fisheries, as was discussed in detail in the last addendum. Currently no recreational fishery management measures have been implemented; and so to reduce fishing mortality there is a need to

explore other management options that could be used to control the recreational fishery.

As the technical committee presented this morning, they presented harvest level scenarios and with the assessment update those will change; and so when we bring the amendment document forward for the August meeting, we'll update the harvest level scenarios and include that information in the amendment. The estimates will come from the 2012 stock assessment update.

The methodology that the technical committee developed along with some of the advances that they're still working on will be the same methodology used to re-estimate the harvest level scenarios when the stock assessment update occurs. I'm going to go through the timeline again for how those two will pair up.

At this meeting, like I mentioned, the board is considering approval of the draft PID. In March we'll take the document out for public comment. In April the stock assessment subcommittee will begin compiling the data for the update. At the May meeting the board will review public comment on the PID and give direction for Amendment 2. Also in May the stock assessment modeling work will occur.

In June the PDT will prepare a Draft Amendment 2 and there will be an assessment workshop for the stock assessment update. In July the PDT will finalize Draft Amendment 2 and simultaneously the stock assessment subcommittee and technical committee will finalize the stock assessment update. At the August meeting the board would review Draft Amendment 2 and the 2012 stock assessment update at the same time.

The recreational management options were detailed in Addendum V and carried over into this public information document. Those are status quo, which are no current recreational measures. Option 2 is size limits, bag limits, seasons and area closures. Moving on to the fourth issue in the PID is the commercial fishery management measures. Menhaden supports a reduction and bait fishery.

The commercial harvest in 2010, the reduction fishery accounted for roughly 80 percent of total landings and the bait fishery accounted for roughly 20 percent of total landings. Several fisheries rely on menhaden for bait. Management changes are proposed for both the commercial bait and reduction fisheries.

As I mentioned before for the recreational harvest, the harvest level scenarios to achieve the new threshold and target F rates will come from the 2012 stock assessment update. The information that Jeff presented will be updated with the fishing mortality estimates that come out of that assessment update.

Moving to the commercial management options, there is status quo, which is the Chesapeake Bay harvest cap; trip limits, gear restrictions, season closures, area closures, quotas which would need additional monitoring requirements as it's dealt with in the PID; effort controls and limited entry program. All of these management options have details associated with them in the public information document.

The PID ends with the background section that discusses the status of the fisheries management and the amendment and the five addendums that have occurred since, and then it also details the current status of the stock, which is based on the 2009 update, and that is that overfishing is occurring but the stock is not overfished.

It also details the social and economic impacts and discusses that those impacts would be proportional to the harvest level reductions that would occur. As I mentioned, those harvest levels would be updated with that 2012 stock assessment, so at this time specific information on impacts was unavailable. Thank you, Mr. Chairman, that concludes my summary.

CHAIRMAN DANIEL: Thanks, Mike; questions for Mike on the PID? Lynn.

MS. FEGLEY: Mr. Chairman, just one clarifying question; the terminal year for this assessment is going to be 2011; is that correct?

MR. BRUST: Yes.

MR. ROY MILLER: Thank you, Mike. Did the TC give any consideration to delaying harvest until the fish are somewhat older? That gets at the point that Lynn raised about potential differences due to the reduction fishery versus the bait fishery and the age at which the fish are harvested in those fisheries. Thank you.

MR. BRUST: At this point for this assessment, no, we have not discussed those, but I expect they'll come up during the deliberations.

CHAIRMAN DANIEL: I also think – and we might hear more later – there are spatial considerations for selectivity as well. Maybe in the more southern range they're smaller fish and in the northern range they're larger fish so the selectivities actually do change in the reduction fishery. Doug Grout.

MR. GROUT: First of all, Lynn and I made a comment that we might need to have something in this plan information document about acceptable risk by the board. I think if the board is so inclined, it might be good to put in a section on that with a couple of options. I proposed 50 and 75 percent based on some of the experience I've had at least as starting points to get comments. The second point that I'd like to make involves Page 17 of the document. There is a figure here that outlines the historical fishing mortality and presents our current threshold and target, which I think is very appropriate.

However, when I look at this after we have set this new threshold, I began to get a little concerned because it looks like we've been over the threshold the entire period that we have landings except of a couple of years back in the eighties. I don't think that adequately takes into consideration where we've been with management.

I don't think we've been irresponsible all these years. First of all, we didn't even start managing until 1981, which is clearly shown on there. What I would like to suggest is that we add in a line that shows where the old threshold was beginning with Amendment 1, which is when we implemented it, which would show that at least under our past management scenarios we were not over the threshold except for the final year, and at that point we took action, even though it couple of years to take action.

I think leaving this graph as is may provide a bad impression of the public looking at this that we've been irresponsible over these years and I don't think we have. I think most of the times that we've been below our previous threshold have been since we started managing this fishery, so if we could add that line in from 2001 on saying the old threshold level was this.

CHAIRMAN DANIEL: That's an important point. Dave Simpson.

MR. DAVID SIMPSON: It occurs to me that this is a good opportunity and maybe a challenge to the commission to begin to think about practicing multispecies management. We're facing a reduction in the available harvest of menhaden and at the same time we manage fisheries that use quite a bit of menhaden perhaps not in the most efficient fashion.

In Southern New England we're looking at reducing traps to scale the fishery to the size of the available resource. There is quite a bit of evidence throughout the range of that fishery that there are far more traps being utilized than are necessary to catch the available harvest or to land the current level of landings, so we could reduce the demand for menhaden substantially without impacting other fisheries if we just took a little bit closer look.

There are hundreds of thousands of lobster traps fished all up and down the east coast from Maine to New Jersey, anyway. I think we need to practice a little across-board discipline to lighten the load on this fishery where I don't think there are many alternatives or an efficient way to reduce demand.

I think this is something for perhaps this board to consider and maybe include in any public information documents, but it may also be a challenge for the Lobster Technical Committee and the Lobster Board to take a look at that fishery and say how much can you cut menhaden use without impacting that fishery in terms of their landings.

CHAIRMAN DANIEL: I don't think we want to lose that point, especially like the socio-economic section of this document. I hadn't thought that way, but I'm looking around the table and I'm thinking about the blue crab fishery and the overcapacity there at least in certain states where there is a way that you could reduce the impacts on the potential for an increase in the price of bait for a reduction in those fisheries as well.

That may be something the industry has to take on their own in a fishery that's not managed by the ASMFC, but I think that's a good point that I would support being in the draft for public comment. Is there any objection to that by the board? I think that's an important component. Thank you, Dave. Bill Adler.

MR. ADLER: Mr. Chairman, a couple of things. First of all, on that last point one of the issues regarding bait, also is that with the herring, which is another serious bait, they keep getting squeezed on that front as well, which, of course, the balloon pops to menhaden, so you're trying

to squeeze the menhaden but you're not helping out by allowing more herring.

Of course, we all know about groundfish issues, which is another source of bait, which, of course, has been skipped down as well, so menhaden becomes a very important bait fishery; and regardless of whether you're to cut traps or whatever you're trying to do, the other sources are getting squeezed as well, so it turns into a nightmare.

My question originally had to do with Page 11 of the PID, and is more of just a question. On 2010 the Mid-Atlantic, New York, Maryland catches, according to this, were higher than the Chesapeake and Virginia and on down; whereas in all the other years it seems Virginia and Chesapeake Bay numbers were always higher, and I didn't know what happened in 2010 on Page 11 to have the Mid-Atlantic catches exceed the Virginia, Chesapeake, PRFC landings. All the other years it was the other way around and I just didn't know if anybody knew why that was that way this year or 2010.

CHAIRMAN DANIEL: I have no idea.

MR. BRUST: I don't know specifically. I don't think we looked at it in enough detail at the technical committee level. From a personal standpoint, I know that landings went up substantially in New Jersey, which may have tipped the balance. As a technical committee we haven't looked at it specifically, but I'm sure we will when the assessment starts running.

MR. TRAVELSTEAD: Mr. Chairman, a couple of suggestions for some additions in addition to the two requests we heard from the technical committee, and it sounded like everyone was in agreement with including those; the one discussing the level of risk and the other the allocation information that the TC needs, reduction versus bait.

In addition to those, on Page 5, on Issue 1, the timeline to achieve the fishing mortality target, I'd like to specifically get the public's comments on a ten-year schedule to reduce F to the target and would ask that be included. I think the PID is all about prompting the public sufficiently that we get good comments back that we can use. If you don't ask them to comment on certain things, you may not get any comments.

Particularly given the distance between the threshold and target, which is quite large, and where the current fishing mortality rate is, I think it's reasonable to include a ten-year option in there. That would be one suggestion. Another is the board is on record as supporting eventually moving to some form of ecosystem-based reference points, and I don't want the public to lose sight of that.

I realize this document is mostly about the target and thresholds we chose at the last meeting; but if the board is consistent with the motion they passed about a year ago, I think we need to inform the public that ultimately that is the direction we want to head in. Those reference points could supplant what we're talking about here today, so I would ask that some discussion along those lines be added in as well.

Over on Page 14, under Option 6, quotas, we're prompting the public to talk about allocation and we lay out a number of options there, but I would suggest we add some tables in that are a little bit more detailed on landings and harvest, more detailed than the Table 1 that is on Page 11. I think it would be helpful if we could have that by state and by gear type rather than the regional approach that is shown on Table 1. I think that would help the public comment on those issues. I think that's it. Thank you.

MR. WAINE: Jack, just to clarify, we've approved the data for the bait landings by region because of confidentiality issues. The PDT could present landings by state but I think we'd have to average over a series of years to avoid confidentiality issues. Is there any direction on how many years the board would want to use or could that be up to the discretion of the PDT?

MR. TRAVELSTEAD: If you're asking me, I'd leave that to your discretion.

DR. DAVID PIERCE: The public information document has a very brief treatment of the social and economic impacts of whatever is being proposed in part because we're not proposing anything specific so how can we analyze the impacts of something that has yet to be defined, the specific management strategies and how those strategies would impact the different users?

I understand that, but I suspect the public will be left wondering what exactly is the economic importance of these fisheries for menhaden. I don't believe there is enough information in the document for the public to get that appreciation. There is information about catch by sector, which is, of course, important, but there is nothing really in this document that provides a flavor for the importance of this particular menhaden fishery, bait as well as the reduction.

I'm sure we have quite a bit of information regarding the importance of this particular fishery that would be needed I think for the public to consider in light of the nature of the issues that we are raising as to the extent of the catch reduction that we might be considering or that we are considering.

I would strongly encourage some additional information in the public information document that would provide a better economic perspective for the public. I think by doing that we also demonstrate to the industry itself that we do indeed recognize its importance. Yes, mortality needs to be cut, but we need to be very reflective and considerate of the economic impact and social impact as well. That is my suggestion there.

On one other point, I wrestled with this and I'm not sure how it could be addressed, but what are the options that we want the public to address? Are ITQs or catch shares a possible management approach for us to pursue to achieve these specific fishing mortality reduction objectives? I find it a bit – well, if I was a member of the public I would wonder why are those options in this document for consideration when it's made very clear in the document that we have a big problem with catch information and landings information. There are many holes.

If we feel comfortable as a board going out to public hearing saying, okay, we're considering ITQs or catch share management for this fishery, but, oh, by the way, we don't have a sound catch data base to use to make those important catch share decisions, then fine. I feel uncomfortable offering that up as a possible management strategy when one of our major problems is inadequate information and we need to improve the way in which we get our catch information or landings information for important management decisions.

I just raise it as an issue. I don't like those two elements being in this document unless this document would have some explanation as to why it is appropriate and why we feel it is appropriate to address to catch share management in the menhaden fishery when we have such an inadequate data base regarding catch. If some information can be included in the document to kind of bring it together, that would be useful. Otherwise, I'd like it struck from the document.

CHAIRMAN DANIEL: Yes, I think we can strike it now or we can strike it later. I can't imagine because of those – and I was going to bring that point up in my summary of perhaps taking that out unless somebody feels real strongly about it. I think the points you raise are valid and we could save some time by taking that out of the document. I would like to get through the first round of comments first before we start. Vince.

EXECUTIVE DIRECTOR JOHN V. O'SHEA: Well, actually I think you have very good data on 80 percent of the catch, so it may be worthwhile leaving that in for a while.

CHAIRMAN DANIEL: I think the concern is the other 20 percent from what I heard from the public and what I've heard at home. One of the issues that we have – and I don't know about the other states – and I'm sure it happens in Virginia and other states is that folks go out and actually catch their menhaden during their gill net fishing season and pack those fish themselves to use as bait, so they're not captured on any kind of trip ticket program or anything because they're not selling the fish.

They're going out there catching their own bait, using it in their crab fishery; and if you disallow that or say you're going to be allowed to continue that as long as you don't report it, that's not going to help us out. I see it as a very complicated issue that I'm not exactly sure either how it would work. Pete Himchak.

MR. HIMCHAK: Mr. Chairman, I just wanted to address Mr. Adler's question earlier and maybe elaborate on Jeff's response. What happened in 2010 is I can say with pretty good confidence is the reflection of setting such a low sub-ACL on Atlantic herring in Areas 1A and 1B. We knew this redirection would occur.

In purse seine landings in New Jersey alone they went up to 50 million pounds, about 10 or 15 million pounds more than on average. Consequently, the industry in New Jersey asked the legislature to put in a limited entry system for purse seine fishing for bait in 2011 and it was put in. Of course, there is no cap on the allowable harvest. We should look forward to a favorable Atlantic herring stock assessment report.

MR. G. RITCHIE WHITE: I guess by eliminating those two options, I guess my only concern would be should they be in the toolbox, though, so that we would not have to go through the amendment process. I throw that out as a question. I'm not sure whether that should be –

CHAIRMAN DANIEL: I think under adaptive management we could include any list of

potential items. It may be something would be desired by one sector. I could see it with the reduction fishery, perhaps, and some of the big bait fisheries obviously have good landings, but it's the smaller folks that it could create a problem for.

Yes, I believe we could that but that will be up to the board. Before we make any of those specific decisions – I think I have them written down – I do want to hear from the advisory panel before we take any specific actions here. Are there any other questions for staff on the PID before we go to the advisory panel? Vince.

EXECUTIVE DIRECTOR O'SHEA: Going back to what I think was a suggestion from Dr. Pierce about more economic data in the PID, I think one way to look at that is the purpose of a PID is to go out to the public and say what do you think needs to be considered to go into the addendum; so rather than put economic data in the PID, maybe the tasking ought to be to sort of pose that question to the public, what sort of economic data would the public want to see in the PID. If we have an issue about availability of it, try to solicit the public to suggest where we might find that data. Thank you.

CHAIRMAN DANIEL: That's a good option. Terry and then Roy and then I'd like to go on to the advisory panel and then we'll have this discussion again.

MR. TERRY STOCKWELL: Mr. Chairman, I am uncomfortable about taking quotas out of the document at this time. We do have a small bait fishery in the state of Maine and we do have landings and we do have some support towards at least considering the options, but I think it would be helpful, assuming it's retained, to beef up the bullet on monitoring requirements that reflect the cost necessary in order to move this option forward.

MR. MILLER: Mr. Chairman, I just wanted to quickly reiterate something I mentioned at the fall meeting, and that is a definition of de minimis for purposes of this plan. It can either be in the PID or it can be in the draft amendment, but one way or another I would like to have some consideration of that. Thank you.

CHAIRMAN DANIEL: I agree; that one was on my list. All right, let me go now to Mr. Windley and let him give us a brief advisory panel review. He has had good success, I think.

ADVISORY PANEL REPORT

MR. WINDLEY: The advisory panel met via conference call on January 26, 2012, to make recommendations to the board on the Draft Public Information Document for Amendment 2 of the ISFMP for Atlantic menhaden. Panel members in attendance represented the conservation community, commercial harvesters for bait and reduction, bait dealers, and recreational fishermen. The following is a summary of the comments.

On Issue 1, some members suggested that information about the timeframe for achieving the threshold is missing and was not well defined by the board. Other members thought that Addendum V clearly stated that the threshold would be achieved immediately to end overfishing. Some AP members requested a detailed description of the status of other ASMFC species and the way they are being managed. More specifically, they are interested in which species are managed at the threshold F or at the target F.

On catch reporting, some members requested more information regarding the reduction fishery and the use of the Captain's Daily Fishing Report with open port sampling. The addition of this text would help the public understand what the current reporting is in the reduction fishery. It was also suggested that more information be included on the bait fishery reporting. Most specifically, the AP requested information on the frequency and method of reporting in each state within the management unit.

The AP recommended on the recreational fishery management tools; the AP recommended also discussing the timeline for the assessment update and amendment at the beginning of the document, at the end of Issue 1. We looked at moving that in the document and it did seem to flow better.

The AP recommended clarifying the intent of reporting in the recreational fishery; adding that reporting under the recreational fishery will only apply to fish that are immediately caught and not menhaden that were purchased for bait. Thank you.

CHAIRMAN DANIEL: Thank you, Mr. Windley. Questions for Mr. Windley and the advisory panel? Go ahead and then I'll do a review.

DISCUSSION AND ACTION

MR. WAINE: In response to the AP recommendations, the plan development team did draft some text which is included in that report. If the board wanted to consider adding any of their recommendations, that text has been drafted for your review.

CHAIRMAN DANIEL: Okay, I think we have to be careful – and I'll take comments from the public if anybody has any comments on the PID before it's approved. Let me summarize where I think we are and trying to be careful not to get too much into the amendment, recognizing we have a PID to approve. We've got a lot of flexibility there compared to an amendment.

We've want to make sure that we've got everything. I've heard the following changes – and if I missed something, I apologize, it wasn't intentional, so be sure and raise your hand at the end of this. The timeline, I heard a request to add a ten-year provision, so we've got one, three, five and ten years to meet the target.

Now I asked staff to put up this slide from the technical committee report to make sure that everyone recognizes that the example that was used in most of these in there show a 50 percent probability with the types of reductions that we were talking about in Boston, 20 percent and 30 percent, we get to the threshold in around five years for most of these options.

It's not until we get to extraordinarily harsh reductions that we start seeing a 50 percent probability of achieving the target. There is a problem here that we need to be aware of. We're not doing what we're saying – I don't think we're doing what we're saying we're going to do in this document. It looks to me like if we want to achieve the harvest reduction that takes us down to 175 metric tons from the current 225, that's a pretty substantive reduction, and that's a reduction that is pretty consistent with what we thought the 15/30 would require in order to achieve that.

That doesn't get us anywhere close to our target in five years. It gets us 50 percent probability of achieving the threshold in five years or around five years but not the target. We need to clarify that and have some discussion on that. Do we want to try to achieve the threshold in one, three, five, ten years or the target? If you're talking about the target, it's going be far more onerous.

I believe I'm reading this properly. That's something that I think we need to consider. I also think we need to at least consider – and this may require more technical committee input than we currently have had on this difference between overfished and overfishing. We're not overfished, but yet we're looking at the potential of 50 percent reductions almost to the fishery to end overfishing.

I struggle with that, that we're not overfished and we've only been overfishing. We need to be able to explain that in this PID why we're going out with these reductions when we're not overfished, and I don't think we address that very well in the document. A lot of states will fall under a de minimis criteria if we define one; what should that level be or should we just not have a de minimis requirement? One percent is going to probably take care of 90 percent of the states from my quick glance.

I didn't hear a suggestion to remove the quotas. Now that may be what Dr. Pierce intended. I was thinking primarily of limited entry and not quotas. We need to have some discussion on whether or not we want to retain limited entry and quotas just for public comment; and then if we want to take it out and not advance that any further in the amendment, that's cool.

We can leave it in the toolbox, leave it in the framework, whatever we decide to do, but I tend to agree with Terry on quotas and I tend to agree with Dr. Pierce on limited entry, if that matters. And then the economic information; I think it is very important even in this document that we explain the potential economic consequences of this, but I'm personally struggling with not taking the appropriate management measures to restore or rebuild a particular stock because of the collateral economic consequences that may require in some other fishery or some other realm.

I may be in the minority here, but I don't think we can fail to take action on this fish because the price of bait might go up ten cents a pound. We've never talked about that kind of collateral impacts before in any management approach that I'm aware of, so I think we need to be careful going down that trail.

That's kind of what I've got listed down from the discussions around the table of potential modifications or changes to the PID. You can accept or reject any or all of those. Let's try to

go around the table. Don't assume because I said it that it's going in the document, because I want board agreement on all of these items.

I think to me the most important one is some discussion on this threshold/target issue and the timing there. I'm confused there and I know the public is going to be confused there. I've already got three or four hands up so I'm going to start with Dr. Pierce, go to David Simpson and then Lynn Fegley, and then you'll need to raise your hand after that.

DR. PIERCE: I appreciate your struggle, Mr. Chairman. This information that's on the screen right now is summary, it's preliminary, so I understand these numbers could change rather dramatically. However, they can be used as guidance for these discussions now. You mentioned I believe, Mr. Chairman, 175,000, that's the middle or so shot that, yes, indeed, it takes a while for the 50 percent probability of getting to the threshold – that's in 2016 – and regarding the target, forget it, we're not going to get there.

However, I would say and I would argue that we should not be only focused on what this amendment will do relative to 2010. When we met in Boston, I noted that there was a rather significant marked increase in the landings of the bait fishery and reduction fishery and somewhat of an increase in the bait fishery; not as much as for the reduction fishery that went up from 143,000 to about 183,000 from one year to the next.

If we're talking about being concerned about reducing harvest of 2010 down to some lower level or are we talking about reducing harvest down to a level – how should I put this? In other words, we seem to very, very high with our landings right now; and if we used only 2010 as our base, I think we deceive ourselves.

I look at this figure and I look at 150,000 tons and I see that, okay, we get a 50 percent probability of hitting the threshold in 2015 or thereabouts and the red line is approaching at 50 percent probability of hitting the target in 2017; so for me I look at the 150,000 metric tons and I say is that a reasonable amount of catch to limit the fishery to overall.

Well, I think it would be if we're looking at 2009, 2008, 2007 levels. If we're only looking at 2010, then probably not, so I have no problem with the 150,000 at this time because I continue to focus on the way it has been recently, meaning past years and not just 2010.

I'm not struggling as much as you are; because as I move forward with discussions of what will come out of this point about this public information document and what eventually we will be prescribing for the industry and the management measures associated with that prescription, I'm looking more at the 150,000 metric tons as a possible target as opposed to being concerned about the 175.

CHAIRMAN DANIEL: Fair comments. Dave Simpson.

MR. SIMPSON: Some of the things you pointed out, I think Jack's suggestion that we also include a ten-year timeline makes a whole lot of sense to me to include for public comment. It is consistent with Magnuson's kind of guidance. Certainly comments about what it might do to the price of bait in other fisheries I think are looking at the wrong way because we're the commission and we also manage fisheries that will be affected by this.

We talk about 50 and 75 percent reductions directly in fisheries and seem to have no trouble doing that, but it just seems to me to be very curious that we're going to worry about the price of bait in another fishery when in fact if we address that problem that we have control over, that demand for that much bait, which is far beyond what is really needed to land that available resource, we can address that issue and affect the price of bait because there will be less demand for it for the same number of lobsters and for individual state's crabs. That should not be an impediment to progress here. That should be the last thing on our list of concerns.

MS. FEGLEY: Just to go back to the timeline to clarify that, I think that it would be fair to say that the timeline should start from when we implement, which is 2013. The graphs up there, I can't really see them very well, but I think they start at 2010. At least they do in the document.

CHAIRMAN DANIEL: 2012.

MS. FEGLEY: 2012, okay, so I just wanted to say, one, that if we look at the technical committee's document, the table that they have on I believe it's Page 4, 2017, which would be five years after implementation, if you look at a harvest level of 150, we're at that point at an 80 percent chance of hitting the threshold and a 40 percent chance of the target. In 2017 at landings of 125, you're at a 76 percent chance of hitting

the target, recognizing that those numbers are going to change.

The other thing I think everybody has to remember here – and Jeff said it – was that this analysis right now includes no feedback. What a constant landings analysis does or approach does is in a way eliminates our ability to be adaptive in case we do get that feedback. I'm not sure quite how we get there, but I think that we also have to consider that we should take action and understand that what we could get is feedback that could mitigate some of the effects down the road sooner than later. Thanks.

MR. WILLIAM GOLDSBOROUGH: Mr. Chairman, a couple of quick comments. With respect to economic impacts, I'm happy to provide whatever information we can to the public in this document, but I think what we've discussed so far are simply the short-term economic impacts that might be felt by some of these cutbacks.

I think we also have to note for the public's interest that the stock is at the lowest point on record and we have suffered substantial socio-economic impacts over recent decades as that decline has occurred and that in reality one of the most compelling reasons for taking action is that and to avoid further declines and further impacts and in fact to turn this stock around so that we can have an improved and not only higher in terms of the socio-economic value but also in terms of increased stability in those benefits to the public.
That's really the motivation here and I think as we add in any other suggested information about socio-economic impacts that we also put in that context as well, that this is a responsible action that we're attempting to take on behalf of those values. The other thing I wanted to point out is with respect to timelines we first heard the benchmark assessment report in the spring of 2010 and at this point we're not going to be implementing the first of whatever phase-in timeline we adopt actions until the spring of 2013, so that will be three years.

I just remind everybody, as we often do, try to remind ourselves that the vision of the commission is healthy and self-sustaining populations for all Atlantic coast fish species or successful restoration well in progress by the year 2015. That only gives us two years after the beginning of implementation so I think we need to continue to be cognizant of that as well.

MR. CARPENTER: I have two things I'd like to mention here. The talk about catch shares and allocations and the rest of that, I think all of that should be left in. If we go to a quota system, I see catch shares as a subset of the quota. Once the quota is established, how you divide up within your region and your state is going to be based on what information you have and the public will at that point. If you have a limited entry system in New Jersey, that's going to boil down to an ITQ system in practical matters. I'd like to see that left in.

With regard to de minimis, yes, a lot of us would be 1 percent if you consider the total thing, but I think you may need to look at de minimis for the bait fishery as a subset. We know we have very good data on the reduction fishery; and if you can treat the bait fishery with its own separate de minimis level for those states that aren't involved in the reduction fishery, I think there are some advantages to looking at that as an option.

CHAIRMAN DANIEL: That's a good idea. All right, what I've heard so far is that we will include the ten years. It's up to you, but we could do a de minimis with two options; one be a coast-wide de minimis and one be a bait de minimis or just do bait de minimis, but maybe for public comment we could do them both.

I think the idea of doing a bait de minimis is probably a pretty novel and interesting idea. A lot more states will be involved in the plan at least formally with that. Is that acceptable to everyone to have those two options for de minimis and include the ten-year time span? I just want to make sure that we're on record, and I think we are, expressing our concerns over the economic information that needs to be included in this at some point.

It may not need to be fleshed out completely in the PID but it certainly does for the amendment. And then finally just that recognition on what Lynn and I think Dave Pierce talked about and Dave Simpson a little bit, the reductions that we're looking at and where are we trying to go in this first order plan. Are we trying to get to the threshold first in a certain timeframe or do we really mean the target in that one, three, five and ten-year period?

Again, I look at these graphics and see that even at the 150 metric tons we haven't got a 50 percent chance of achieving the target. It's about 40 percent, it looks to me, within the five-year timeframe. I think we need to be very cognizant of that and be prepared to make some

decision and it may be appropriate to go to the threshold first, achieve the threshold.

I mean that doubled the spawning stock biomass that we have right now, and it would be my hope that we would start to see some improved recruitment indexes if the environmental conditions are favorable there. At this particular point in time I think there will be a lot of comment on the potential reductions that are necessary in a stock that is not overfished. I just think those are things we need to keep in mind. Right now I've got a ten-year rebuilding option in there and the two de minimis options. Is there anything else that anyone would like to add to the plan or any comments before we go to the public. Pat.

MR. PATRICK AUGUSTINE: Mr. Chairman, I've been very quiet on this one and gathering all the information offered around the table. Is there any reason why it wouldn't be considered to go at a seven-year rebuild? When you think about it, one, three, five and then a five-year jump, I'm not sure what the difference would mean if we put that in as a seven year. We're new at it. We haven't decided which way to go. Would the technical committee have to do work to support a seven-year rebuild or is it just too long?

CHAIRMAN DANIEL: Well, that was Jack's idea and he has got his hand up so I'm going to let Jack –
MR. AUGUSTINE: I have no problem with it, but I just wondered.

MR. TRAVELSTEAD: I thought you sort of laid it out fairly well, Mr. Chairman. The questions you're asking of us seem to me to be the questions we should be asking of the public in the document. It sounds like you have a good handle on the issue if we could get those kinds of questions put in the PID relative to both the threshold and the target.

I'm sort of reluctant to include this information in the document because the TC is telling it's so preliminary. If we can describe these as some type of example as to what it's indicating to us at this point, I think that might help the public comment on that issue.

CHAIRMAN DANIEL: Yes, I think you're right. It does scare me to be relying on 2010, which were high years, or information that is not altogether correct. It may cause more doom and gloom than we want to pass out. A.C.

MR. CARPENTER: With regard to the information on Appendix 1 where you have the listed and then you have met the requirements of the current plan, I think there is an opportunity to add a column here for the frequency and availability of the data. I think that was one of the things the AP asked for was information about who is reporting and how often. I think we can stick that in here as a very simple column that says weekly, monthly, annually to that table and it would satisfy that request of the AP.

MR. ADAM NOWALSKY: Mr. Chairman, as I hear the many items we've discussed and I hear you suggesting we're about to take some comment, I'm wondering if it might not be appropriate to have a motion at this point for approval of this document and outline on the screen some of the things that we have talked about and you've summarized here at this point to help all of us as well as the public direct comment.

CHAIRMAN DANIEL: That would be nice.

MR. NOWALSKY: Well, if you'd like, Mr. Chairman, I'll go ahead and make a motion to approve the Draft Public Information Document to Amendment 2 for public comment with the items we've discussed here and have those itemized and shown on the screen.
CHAIRMAN DANIEL: I have got a motion; do I have a second? Second by Mr. Boyles. All right, let's get it up there. What I have so far, Adam, is the ten-year approach and the two options for de minimis. Tom.

MR. THOMAS FOTE: I've been pretty quiet. When I'm looking at the dates here, I'm looking at 2023 or 2024 as the rebuilding period of time. I mean, there have been a lot of people discussing that we should have started this ten years ago. I'm afraid to go out that far. I know I won't be here in 2024 to make any of those decisions, hopefully, but I'm just looking at most of you will be retired by that point.

I'm just trying to figure out if we're going to do options, there should be a couple of options there, whether it's a five year or a ten year to start rebuilding and what point we're going to rebuild it because the public has been adamant. We've heard a lot of discussion over the years on this. It started not five years ago; it started about ten years ago, and we've been fifty here years. Maybe waiting to go out to 2024 is a little long. I think we need to put a couple of options in there and not just the ten year but put a five year or something like that or the seven year that Pat

was talking about, so at least we get there by 2020.

CHAIRMAN DANIEL: For clarification, I think the intent is to have four options. It would be one year, three years, five years, ten years is what we've got right now, and that's what the motion should reflect. There was also some I guess agreement that we need to clarify with some text the overfishing thresholds, the targets and the potential reductions that may ensue but with folks realizing in the PID that the actual numbers may change as we get the stock assessment.

MS FEGLEY: I have a question that I'm not sure I understand, so there is language somewhere that says that because of the reference points we're overfishing and the board has to take action to end overfishing immediately. According to this preliminary table, again on Page 4 of the TC document, if we reduce landings to 75,000 metric tons, the chance of meeting the threshold in 2013 is just over 50 percent, so we wouldn't even at that level of reduction be ending overfishing immediately. I'm just trying to understand if we're contradicting ourselves. Thank you.

CHAIRMAN DANIEL: Well, if we're saying we have to end it immediately and we're not ending it immediately, then, yes, we are contradicting ourselves. Does it say in the PID that we have to end overfishing immediately or is that in the subsequent plan? Where is that language, Lynn?

MS. FEGLEY: I believe, Mr. Chairman, it was somewhere in the presentation that was given earlier.

CHAIRMAN DANIEL: In Addendum V?

MS. FEGLEY: Yes, sir.

CHAIRMAN DANIEL: Okay. All right, if you've got an addendum that says if you determine that you're overfishing you will end it immediately and we're not doing that in this proposed amendment, that's a problem. You all figure that out and help me. Doug.

MR. GROUT: This is a question for Jeff. I have been struggling with this since I saw the tables up there. If you were to reduce to 75 metric tons, which is well less 50 percent of the current harvest, in one year and our difference between our current mortality – the terminal year of the assessment and our new threshold and target is less than a 50 percent reduction, why is it that we're not – if you reduce harvest by more than 50 percent, that you're not getting that credit immediately – why aren't we immediately, with a one-year reduction, getting to our target?

MR. BRUST: The confounding factor here is that the assessment ended with 2008 data and now we're looking at 2012. Things have happened since 2008, since the assessment ended, that are not fully incorporated into the assessment. We did our best to incorporate them into the projections. That is playing in and then there is the uncertainty with the recruitment level.

That is the biggest assumption that affects these projections. If we could tighten up the spawner-recruit – excuse me, there is no specific spawner-recruit relationship in here. If the variability around the recruitment pattern was tighter, if there wasn't as much variability, there wouldn't be nearly as much variability around the results as presented here.

MR. GROUT: So to summarize that, the reason that we are not getting there immediately is because there is a tremendous amount of uncertainty as to what the actual stock size is right now because there has been four years since we've had a benchmark stock assessment and so that is what is going into these. You're saying, well, we have a very uncertain idea of where the stock size is; so even if you reduce landings by well over 50 percent, there is only a 20 percent probability you're getting to the target.

MR. BRUST: That's a good summarization and that's why the technical committee wants to stress these are preliminary numbers. As several of the board members mentioned, the TC had the same concerns about putting these results into the PID because they're very preliminary. It's the second set of numbers and there then there is going to be a third set of numbers after the stock assessment is complete and the amendment goes forward.

MR. GROUT: And so to follow up on that, when we have the new stock assessment, that uncertainty will be reduced dramatically and so we may not have to be taking that severe a cut to get to the target or threshold?

MR. BRUST: If I could, Mr. Chairman, the uncertainty should be reduced in that first year of implementation; but when we project forward, again it's all dependent on the recruitment levels which we are modeling, and there is quite a bit of

uncertainty. Hopefully, that first year there should be a whole lot less uncertainty because it will have gone through the full assessment process.

CHAIRMAN DANIEL: Yes, and to get back, I think, Lynn, looking back at Addendum V and looking at where we are, it says that the board must take action to reduce F, so we don't have to do it immediately. I think we've done that and I think as we develop amendments, if we want to change things, or in addendums, we can do that. We just have to explain that we're doing that. I think we're okay in terms of the direction that we're headed there. You spooked me there for a minute. I saw a bunch of hands up that hopefully were resolved. Roy.

MR. MILLER: Mr. Chairman, one point, in the document that we reviewed in the fall that got us to where we are today, the ecological benefits of a restored resource was stressed very much in that document. I didn't see much to do about that particular issue in the PID. Presumably we're going to fold in the ecological benefits of a restored resource into the amendment?

CHAIRMAN DANIEL: Yes, that will be done. Pat, did you have your hand up?

MR. AUGUSTINE: I did and I was thinking whether I wanted to follow up after Mr. Miller got through speaking. I'll ask I think a simple question because I'm feeling simple today. What will be the reaction to the public, do we think, by putting this document out with their finding out and knowing that we will have a full-blown stock assessment in 2012; and again that swing-end opinion, if you will, and what is it we're trying to accomplish?

Ms. Fegley asked the question do we really meet the tenant of what we said we were going to do. I guess I'm looking for a communication tool, something in this document that will alert the public as to here is what is going on and here is what we're going to accomplish. It's a big step for everybody and I think we've all waited for it to come along. Without further clarification, I think that question hangs out there.

I don't know if you have any ideas, Mr. Chairman, as to how we could approach that with maybe a couple of sentences to describe and clarify for the public. You know, we had 9,000 responses saying you've got to do something and all the things we've accomplished today say we haven't. That's where we are.

CHAIRMAN DANIEL: Yes, I think it was 90,000.

MR. AUGUSTINE: Well, it was a tremendous number, but the point is if you could come up with some language, one or two sentences, that would help that, and you're good at it, Mr. Chairman, so it would be appreciated.

CHAIRMAN DANIEL: Well, I appreciate that, Mr. Augustine, but it is going to be difficult to explain, but we can explain to the public that these are preliminary numbers and that we do anticipate numbers to change with the updated stock assessment. Things may be a lot better than we anticipated and we may no longer be overfishing.

I think we've had a history, though, of continuing to put off items until we get an updated stock assessment and get ourselves behind. I think this is an opportunity right now with our mission statement saying that we've got to on the way, the more we delay – starting right now, this meeting, the more we delay the less we're going to meet that. I think it's important that we move forward. My hope is that we'll find that when the assessment comes out, that we don't have to take the reductions that are appearing so onerous at the time. Bill Adler.

MR. ADLER: Mr. Chairman, did I hear you say that you have the rebuilding schedule – you've added ten – did I hear you had one year? And if you had the question of should we do it in one year, is that practical, really, in everything that we've been going through to suggest we'll do it in one year? Is that really practical if that is in the document?

CHAIRMAN DANIEL: I don't think so, but it's up for the board's decision. One year, that means basically shut the fishery down. We all know – I mean, I'll getting e-mails from the same form letter that I got before the Boston meeting. I don't know if you all are getting them but I'm still getting them. You know that they are going to be a lot of comments recommending the one year based on all the 90-some thousand comments we received. I would certainly not be in any opposition to modify this to remove the one year, but that is your call. Mr. Adler.

MR. ADLER: Well, since I think it's not practical to do it in one year for a number of reasons, I would just suggest that you take that particular one out of the picture and leave the rest in. I just don't see that we're going to do that even if you do get 90,000. The way we have

to work here and what we have to do and put in place and stuff, it wouldn't happen so why put it in.

CHAIRMAN DANIEL: Well, if Adam would accept that as a friendly amendment to his motion to remove the one-year requirement and we would go with three, five and ten, then I think we would be okay. Adam.

MR. NOWALSKY: Well, Mr. Chairman, referring back to Mr. Travelstead's reason for including the ten year to solicit comment, I think I'd be inclined to leave the one year in. Regardless of what action we might actually take, if we're going to put the ten in for that reason, I'd leave the one in with the original motion.

CHAIRMAN DANIEL: Okay. Is there any other board discussion on how we're planning to move forward? Adam.

MR. NOWALSKY: One point to clarify, I'd heard Mr. Augustine use the comments "full-blown assessment". I believe Mr. Brust had indicated it would be an update in 2012; so just to clarify we're getting an update and not a full-blown assessment. With regard to some of the other things we've talked about today, I do think providing information in the document with regards to allocation is presently spelled out here enough with some of the additions that we've made here today, so I think we've adequately addressed that.

Two other items that we had discussed earlier that we don't have up here right now; one was discussion for inclusion on the probability of achieving the thresholds and/or the targets. Some ideas have been thrown around, 50, 75 percent. I would like to see an item, going back to that discussion, with regards to including another item in here for discussion of the probabilities of achieving the target F.

And then the second item I think would be good to have here is the PDT had done work in response to the AP's comments. They had provided a number of textual additions to provide some clarification to help the public in their response. In particular one of the questions that we struggled with here recently was this concept of how the board is acting immediately, and specifically the PDT had drafted some language through Amendment 2 the board will take actions to end overfishing immediately.

However, because the reductions in F are substantial, the board is considering a schedule to reduce F. I think the PDT text that they've outlined leaves open the idea the board is taking actions immediately. We're not necessarily ending overfishing immediately, but we are taking actions immediately. I do think the text that the PDT drafted in response to the AP was helpful in that issue and in regards I think a number of the other textual items that they've added that are included in the meeting materials here would be relevant to include and helpful to the public and would like to see those added.

CHAIRMAN DANIEL: Without objection, I think those are good points. All right, anything else from the board on this? Mark.

MR. MARK GIBSON: Mr. Chairman, it's still not clear to me how this preliminary projection information is going to be included or not in this public hearing draft to inform the public. I see Item 3 up there, but it seems to me that there is additional work to be done here. That's my question; how is this to be incorporated in the amendment to inform the public or not and what happens when it changes and we've already done a series of hearings and so on?

I'm still not clear on that. This is preliminary information based on some assumptions that they made and they want to do some additional work. Where is this particular document heading relative to the draft amendment?

CHAIRMAN DANIEL: The graphics that show the reductions that are necessary to achieve the targets based on – well, the way I understand we're moving forward right now is to include those graphics with the caveat that the updated assessment will modify and change those numbers to reflect the new information.

The other option would be not to have those graphics and those numbers in there and just indicate that we will have specific harvest reduction necessary that maybe have a range. I think providing them with the most recent assessment information; do we expect it to change that dramatically; probably not. Will we need some reduction; probably.

Exactly the percentage reductions we're going to need, we just won't know until after, and so it does water down a little bit the public comment on the specific reductions because they don't know exactly what they are. I think the other alternative is to wait until we get the assessment and move forward, and I think that just delays us another year. Jack.

MR. TRAVELSTEAD: Yes, just along those same lines, whether you include the graphs or not I think is less important as a very specific discussion of the levels of reductions and what it means to the harvest, both to achieve the threshold and the targets, and with the caveat up front that all of this could change in August when we get the updated assessment.

CHAIRMAN DANIEL: Yes, I think we can still lay the groundwork for the amendment with the PID going out with that information forthcoming. Vince.

EXECUTIVE DIRECTOR O'SHEA: Mr. Chairman, there was a comment about including some language from the PDT. Staff has tried to capture that in Item 10, and I just want to verify that we got it right. Some folks are saying there was – I thought I heard somebody say the PDT recommendation. It wasn't from the PDT. It was language recommended by the AP and that is before the board members now. The idea would be the PDT responded to what the AP said.

CHAIRMAN DANIEL: That was my understanding. Adam, if you could get with Toni just make sure that the information that you want included is included; if you could do that, that would be helpful.

MR. NOWALSKY: Yes, that's fine. I think that as Toni put it up there, "addition of PDT language in response to the AP recommendations" actually captures that. Again, it's all spelled out here so I think that is reflected perfectly here and would support the original motion.

CHAIRMAN DANIEL: Thank you. Doug, final word.

MR. GROUT: Mr. Chairman, I just wanted to express my strong concurrence with Jack Travelstead's suggestion that we not actually put these graphs in the document. I think they will confuse the public. I know they have confused me. Just putting some percentage reductions that could be potential and the explanation – and this is very important – we indicated in the last addendum that if we went to this target, it would result in a need for a very specific percentage reduction in the catch and why the reductions that are being proposed here are much larger than that percentage reduction, why that is occurring. From what I understand, it's because the farther we get out from our terminal year of our assessment, the more uncertain we are with our projections here – just some something as simple as that and that once we get the new assessment we'll be more certain in that first year and so we won't have as much variability there.

CHAIRMAN DANIEL: Is there any objection to that suggestion from Jack and Doug? I think it's a good approach. Anything we can do to reduce confusion I think is a good thing, especially when we're confused. All right, good discussion and I thank you. Members of the couple, maybe just a couple of comments, and I'm going to take them for and against the motion; so would those that are in favor of the motion please raise your hand. Okay, those in opposition to the motion; yes, sir, come to the mike and state your name and any affiliation you may have.

MR. PATRICK PAQUETTE: Patrick Paquette, recreational fishing advocate from Massachusetts. I work with rivers from North Carolina to Maine. I'm actually in favor of the bulk of the motion though I think some of the edits and subjects you've discussed bring up some concerns.

My understanding of the norm in a document to have sort of some – and I'm referring to the number of years to achieve the target. You know, we should have outer boundaries and I think it's normal to have status quo and then something way out in the outside. I can tell you that I don't have to talk to not one of the boards of any of the organizations I work with that will think that a ten-year rebuilding is absolutely bizarre to take a decade to get to a target.

It just seems like it's outside of reality, and I think it's going to inspire a lot of anger and rage instead of educated true comments. If you're looking for that, you're going to get that from this, but I just caution you that it's almost like antagonistic. It's going to be taken really ugly where I come from, because where I come from – and I understand we're not overfished by way of science, but where I come from menhaden aren't anywhere close to where they were historically.

I'm talking about Boston and I'm not even talking about some of these other remote places. I mean, even south of the Cape – if there were people from Martha's Vineyard here, they'd tell you that menhaden and river herring have killed what was world class sportfishing on Martha's Vineyard is dead.

The Martha's Vineyard Derby last year was down 50 percent in attendees because the forage is gone from the shores of the island. Those two

were the two main staples of forage on the shores of the island. It's just understand it's the reason that we're here for every single data issue. I just think ten years is way on the outside.

I understand that the commission thinks that one year may be too aggressive, but ten years is going to inspire a lot of angry comment. The consideration of de minimis is absolutely one of our big concerns especially over the last couple of years is that the influx of the industrial lobster bait harvesters, especially in federal waters off New Jersey, has changed the bait fishery.

I don't anybody believes that spikes in the fishery and that the small local harvesters of menhaden are a part of what got really anywhere to the bulk of what it got to. Any kind of protection for those small what we refer to as watermen is a good thing, and I think it's really important that de minimis at some level that can protect these very small operators that together probably aren't going to get 1 percent I think coastwide – I don't even think it's going to be statewide.

One last is you guys came up with the subject of lobster bait and herring came up in this discussion. This continues to come up, this subject, and I'm going to suggest through this board maybe that maybe the policy board or maybe this management board recommend to the policy board it's pretty clear that the ASMFC needs to have a better understanding and possibly even have staff at some sort of time in the near future develop a white paper on the actual use of lobster bait.

You guys manage lobster bait, you manage Atlantic herring, you manage river herring and you manage menhaden. All of those species that are managed out of this room continue to get thrown up into this lobster bait discussion, and I just don't think any of us understand; I know that I don't.

I read in the Maine Lobstermen's Association Newsletter a couple of months ago a gentleman from a company called O'Hara said that there are herring in frozen storage containers throughout Maine from 2009. It's not my words. That is from the Maine Lobstermen's Association. I don't understand it, but I think that you guys have to. I would suggest that maybe some sort of a good understanding of that industry is in order for the – it may help with these decisions. Thank you.

MR. JEFF KAELIN: Mr. Chairman, I'm Jeff Kaelin with Lund's Fisheries and we are active in several bait fisheries. I guess I'm here to agree with the motion that's on the table, but there are a couple of things I wanted to just mention. One is I really appreciate, Mr. Chairman, your response to some of our concern as AP members about having this PID better describe what the board's intention is in meeting the threshold.

We've had an excellent discussion about that today because we've got to get there first. We've got to end overfishing. We don't have to rebuild the stock because it's not overfished, and I think that's why we'd ask for some additional information about how other species are managed here where overfishing may be occurring but we're not rebuilding.

I think getting to this target represents the intention to rebuild the stock that is not overfished, so I thought your comments today were very helpful in trying to help us understand how this is going to be architected in the future. I think since we've had those discussions as an AP, there are a couple of additional things that we might want to add to the list of commercial management options that I'm not sure – I've got, for example, an incidental catch allowance for fisheries that may be taking place after the quota might close, where they might need two or three hundred pounds of fresh menhaden.

In the flounder fishery, for example, I think we should consider an incidental catch allowance so those fish aren't discarded. They have great value as fresh menhaden to the striped bass fishermen at that time of year. There is no incidental catch allowance option in the quota list, so I don't know if we should make those changes today or whether we should come to you with suggestions like that when the PID goes out to public hearing and better flesh out some of those quota options.

Another one that we've thinking about is the potential to establish a research set-aside where there is quota. I don't think ASMFC has a history of doing RSAs, but certainly science is important to managing this fishery in the future. The aerial survey work that we cooperated with Omega Protein and some of the other bait dealers also cooperated this summer I think can bring some good information to the table, and that could be a good use of an RSA, a 3 percent RSA set aside or something where that fish could be auctioned off once the quota was reached. Those are just a couple of ideas, Mr. Chairman.

I guess my question was is this the appropriate time to install all this in this list or should we wait until after the public hearing process and make some of these more specific recommendations as we kind of further consider how managing this stock might go forward. The last thing I'll say is we're not opposed to that.

You've heard me say for many years here that our industry is vulnerable because we don't have a hard cap and because we're in a world of hard caps. I'm not opposed to getting there. I think you've helped us understand today how we're going to get there and what the proper timeframes might be to reduce overfishing keeping in mind the fact that we don't have to rebuild because we're not overfished. Thank you for opportunity to make those comments.

DR. KEN HINMAN: Mr. Chairman, Ken Hinman, National Coalition for Marine Conservation. This will be very brief. I just wanted to assure everybody, because we had this discussion I think at the TC meeting, the AP meeting, the PDT calls, that this is a public information document and its purpose is to get from the public actions that should be taken or should not be taken in terms of management measures, enforcement, monitoring regulations and all of those kind of things.

We can all sit here and after this meeting we will continue to come up with ideas of things that can be done or should be thought of or should be considered in the amendment, and that's the whole purpose of the PID. We don't need to delay any further; we need to move ahead with the PID. I think you will hear a lot of things and a lot of these ideas from the industry and from the public, and we will probably hear things that we haven't thought of and I'm hoping we will. I just wanted to urge you to move forward. Thank you.

CHAIRMAN DANIEL: I guess to answer Jeff's specific question, that would be up to the board, Jeff, but I think that certainly your point on a bycatch allowance is an important one that we can discuss I think after public comment. I would urge you to make those comments as public comment.

I'm not real familiar much; I haven't worked a lot with research set-aside so I would feel uncomfortable moving forward with that right now, but I don't think it's a bad idea at least for some further consideration through the PID process and amendment process. All right, anything else from the board after hearing the public comment? Adam.

MR. NOWALSKY: Mr. Chairman, after hearing the comments I do think I'd like to see added under the commercial issue questions the specific item of bycatch allowance as an item specific to get the public talking about it.

CHAIRMAN DANIEL: Without objection? Jaime.

DR. GEIGER: Mr. Chairman, I certainly understand Doug's concern about removing those graphs, but again I still share some concern that even though the data is preliminary I think those graphs would be valuable. Many folks are indeed visual and I think they can relate to those even though it's preliminary information. Again, I think even in that current state they will help inform the public and get information and get suggestions on the table. With all due respect, I am concerned about our decision to eliminate those from this document. Thank you.

CHAIRMAN DANIEL: Thank you, Jaime. Any other comments on the document. We have a motion. I guess with all the additions you probably need me to read that motion. Here is our motion:

Move to approve the PID to Amendment 2 for public comment with the following modifications:
1. Addition of the 10-year rebuilding timeline option to achieve the target;
2. Clarification of *de minimis* provisions;
3. Clarification of timeframe to achieve the target and threshold fishing mortality reference
point (discussion of level risk, including 50 and 75%);
4. Addition of state reporting requirements to Appendix 1;
5. Addition of previous F threshold to fishing mortality figure on Page17;
6. Addition of detailed landings tables;
7. Discussion on changing bait demands through management changes in other fisheries;
8. Request for social and economic data;
9. Discussion on the movement towards ecological reference points;
10. Addition of PDT language in response to the AP recommendations;
11. Addition of a description of the reductions needed to achieve the threshold and target, including the caveats that the projections will change with the new assessment;
12. Addition of a bycatch allowance.

Motion made by Mr. Nowalsky and seconded by Mr. Boyles. Is there a need to caucus? All those in favor of the motion signify by raising your right hand, 17 in favor; opposed, same sign; abstentions; null votes. **The motion passes unanimously;** 17-0. Good job, Board. Yes, Bob.

MR. BEAL: Just a point of clarification; since that motion was so specific, I just wanted to make sure that everyone is in agreement on the process to incorporate those changes and get this document ready to out for public hearings. It's somewhat up to you, Mr. Chairman, but what seems logical is the plan development team can weave all these changes into the document.

We can have the Board Chair review that and then we can send it out to public hearing or is there another full board review type step before this goes out to hearing? I think the motion is pretty specific and the record is very clear today on what folks are interested in. I just wanted to make sure everyone has the same expectation moving forward.

CHAIRMAN DANIEL: This one is a little squirrelly. What I'd like to do is ask for the – I will take full responsibility for the document, but my thinking would be to send the document to the maker and the seconder of the motion to make sure that we're all three in agreement. If that satisfies the board, I would ask for Adam and Robert to just take a quick look over those as well to make sure that we've got comfort, we've got good geographic distribution and handle it that way if that is satisfactory to you and the board. Is everybody comfortable with that approach? I don't think we all need to review it again.

MSTC OVERVIEW OF MANAGEMENT DECISION ANALYSIS

CHAIRMAN DANIEL: Anything else on the addendum? If not we will move into the overview of management decision analysis, which is a discussion on recommendations to begin looking at ecological-based reference points. Note there is an action that needs to be taken for this.

MR. HOWARD TOWNSEND: Good morning; I'd like to thank you for this opportunity to talk to the board. My name is Howard Townsend. I work for the NOAA Chesapeake Office, and I am the chairman of the Multispecies Technical Committee. We wanted to basically go over this idea of a proposal for moving forward with developing some ecological reference points.

This notion of the MODA or the multi-management option decision analysis is somewhat like the ARM stakeholder-driven process that had been used for horseshoe crab. It was adaptive resource management so it's a very similar process, but we wanted to go through this suggestion. I was glad to hear there was some interest in moving forward with ecological reference points from earlier discussions.

Just to give a little recap, a few years ago the board had asked the Menhaden and Multispecies Technical Committees to develop ecological reference points for menhaden that account for predation, and so there was a joint subcommittee of the Menhaden and Multispecies Technical Committees that have worked on the tools and different reference points or indicators.

But before we could really evaluate the performance of these tools and these reference points, we would need clarification of some of the ecosystem management objectives for menhaden and the key predators sort of explicitly stated and spelled out. We thought a good process for coming up with those explicit objectives was to use this process of the multiple objective decision analysis.

So, again, the goal there with MODA is to explicitly state each management objective and identify potential ecosystem reference points that best address these objectives. The sort of humorous wave that we've been thinking about this is we've kind of been going back forth with the reference points being the hot potato and kind of going back and forth between the management board and the technical committees.

We want to come up with a process to get to everybody's perspective and a more productive way of getting as some real implementable reference points. So just to break down specifically what we would do with this multiple objective decision analysis or multiple option decision analysis, first we would ensure that we involve all stakeholders. Second, we would utilize facilitated structured decision-making to come to a consensus on objectives and reference points.

We would want to explicitly define the ecosystem management objectives and explicitly define the reference points' performance

measures to see if they were actually achieving the objectives we had hoped. We would use collaborative model development with the stakeholders to transparently evaluate and review the potential consequences of various ERPs.

This would result in a recommended set of ecological reference points for Atlantic menhaden that would be acceptable to key stakeholders and the board. That's the intent here. I wanted to go into a little more detail on what that working group would look like. We're suggesting we have representatives from the Menhaden Board itself, from the reduction and bait industries, from recreational fishery interest groups as well as environmental groups. Also, we've have a modeling team that would be a contracted modeler from outside the area who has no stake in the game here, someone from a different coast, and then representatives from the Atlantic Menhaden and Multispecies Technical Committees that could help advise the primary modeler.

Sort of a breakdown in kind of a step by step on how this would work and how this could expedite us moving towards ecological reference points, we'd first, after today, get together to develop the working group membership and have that approved by the management board; the working group and the modeling team membership.

Then that would kick-start the working group to get together off site, a small group to specify management objectives and performance measures for the reference points. That's the first step, get those objectives lined up, bring that to the board and make sure the board was okay with those objectives and measures for assessing the performance of those objectives.

The next step then, once approved by the management board, move back to the working group where they begin to identify the options for various reference points to consider and identify any critical uncertainties in implementing these reference points. That working group would then pass the potato over to the modeling team that would assemble data and build the necessary models to simulate how reference points would act in a real-life situation.

We want to test out the reference points in a model before we try to implement them in the real world. Once the modeling team did that, they would bring those back to the working group and let them evaluate the performance. There might be some back and forth for a day or two on that. The working group, once they've seen the reference points and sort of seen how they perform, could consider the tradeoffs and work amongst themselves in a facilitated group to recommend the ecological reference points to the board.

Finally, those recommended reference points could be passed back to the management board for decision on whether or not to approve these, to review and make that decision. The outcomes and deliverables we're planning for this, we would have an explicit list of management objectives for menhaden stock that stakeholders would be satisfied with; an explicit statement on the acceptable levels of risk for the stock.

We'd define our ecological reference points based on the explicit management objectives. Then we'd have a short list of ecological reference points that would be options for the technical committees to incorporate in the menhaden stock assessment or the benchmark assessment in 2015. We'd also have a quantitative evaluation of how those ecological reference points performed or if they actually helped us achieve the goals stated in the objectives.

Then once new data were collected, the Multispecies Technical Committee could continue to update the models that were built during this MODA process and monitor performance of the ERPs. The timeline and estimated budget for this; as soon as we sort of get approval, we'd like to begin, Once we can also procure the funding, we would want to have the management objectives ready for board approval by the next winter meeting in 2013 and then the deliverables ready by the spring 2014 meeting.

We would want to have those ecological reference point options incorporated into the 2015 benchmark assessment and peer review. The estimated cost for this close to 300K but could get up to 500K depending on negotiated consulting fees and overhead rates and those sorts of things that we can negotiate. We also are thinking of doing this in a step-wise process and not in one big ball of wax but sort of following a step-wise process with those funds.

Just for a little clarification because I did mention that this was similar to the adaptive resource management model used for horseshoe crab, they both are looking at explicitly stated multiple management objectives for a particular resource. The ARM was used for horseshoe crab and red knots. The ARM was then used to

evaluate management options; i.e., different harvest levels. That was then used as part of a harvest program implementation strategy.

The MODA, on the other hand, would not be used for management options but for reference points relative to management objectives and would be used for then evaluating the utility of those reference points and meeting those objectives. The action needed from the board on this is to task staff with the development of the MODA process for Atlantic menhaden if funds are available.

We need to initiate this soon because we want to meet that timeline for the 2015 stock assessment, and so the first step would then be to populate that working group. Nominations could be sent to Bob Beal or Mike Waine. That's all I have to say, and I'll be glad to take any questions.

CHAIRMAN DANIEL: Thank you. Are there any questions? Lynn.

MS. FEGLEY: Just out of curiosity, in the material distributed to the board the estimated cost was 150 to $250,000, so I'm just wondering why that doubled.

MR. TOWNSEND: What was distributed was for the first year estimated cost, and so then this will be second year estimated cost.

MR. TRAVELSTEAD: Where is the money coming from or where are you looking for money?

MR. TOWNSEND: I knew somebody was going to ask that. There are some special project funds from NMFS within ASMFC as one option. There are other options, external funding sources as well that we would look into. It's just depending on the special project funds.

MR. TRAVELSTEAD: How optimistic are you that you're going to find the funding you need I guess is the question?

MR. TOWNSEND: I'm fairly optimistic but I'm realistic and do realize that we are in a tight budget year within the federal government and several state governments, so that's why we have sort of multiple strategies. We'll look within that special projects but there are also external groups that could potentially fund it.

MR. GROUT: I have to admit when we were talking a number of meetings ago about developing ecologically based reference points I was thinking more that they would be something that would be more of a scientific outcome. We developed biologically based reference points and I thought more based on an ecosystem basis as to what the biology of the animals involved and the habitat could handle.

I see this process as more of a sociological reference point because I see some facilitated sessions in here. I know when we've had in our department facilitated sessions with user groups, it's usually trying to get at social issues. Are these ecosystem reference points going to be driven by social issues or by the ecosystem and the biology and what the ecosystem can handle?

MR. TOWNSEND: I think that's good question. I think when we've talked within the Multispecies Technical Committee we've come up with a wide range of various reference points, and so we really want to make sure the reference points meet a management objective. You get a room full of biologists and ecologists together, there is a broad array of aspects of the ecosystem that we could start to consider, and so we thought this more facilitated and directed input would help us narrow down that set to where there would be a useful set and a set that would be mutually agreeable and more likely they'd be taken up by the board because all stakeholders opinions are voiced in this.

The other thing we were thinking is that as we were developing the set, we said these are actually more indicators. The actual reference points, targets, thresholds for those would definitely need consideration by more than just the technical committees. That was the direction we were thinking with this.

MR. GROUT: Just a quick followup; so wouldn't it be best to have those facilitated sessions at the front end with the constituents in developing the goals and objectives that the board would have and then the board, based on those goals and objectives that we would set for ecosystem-based management of this, then the science would kick in with determining how we're going to meet those; is that a fair assessment of how this process should work?

MR. TOWNSEND: Yes, maybe I didn't make that clear but that was sort of the first step of all of this is just to have that group where it would be the stakeholder group but also the modeling team so that the stakeholder group – the working group would help define those objectives and then the modeling team would be there just to

sort of say, well, this is what we can realistically measure; those are good objectives but given the data that we're familiar with in the modeling approach is this is, you know, to help refine those objectives a bit, but that would be primarily the working group – the stakeholder part of the working group developing those management objectives.

DR. GEIGER: Mr. Chairman, I think this approach is very, very valuable. As obviously the board knows, structured decision-making has been used very extensively in dealing with a bunch of complex and controversial issues; namely, the ARM Model is the latest example of how successful it was. I have however a little concerned about the cost, as most everyone.

Again, without seeing a more detailed estimate of how you guys got to that cost estimate, I would suggest that there may be cost savings that can be factored into this. Certainly, I think you all know our National Conservation Training Center at Shepherdstown does structured decision-making frequently and often, and there may be some cost savings doing that operation there or elsewhere; I'm not sure.

I do believe, again, just having us to see a more detailed estimate of what the projected cost will be I think will be beneficial for all the board members to see. In addition, again, I would caution the board that obviously the success at SDM, as you all know, depends upon clearly stating what the problem statement is and making sure that problem statement is agreed to and vetted out by all the management board members.

I would urge us regardless of how we want to proceed on this, at least once we got that good problem statement, what specifically are we trying to address with structured decision-making, if the board concurs with that, then I think we're off to a good chance of good success when we proceed. Thank you, Mr. Chairman.

CHAIRMAN DANIEL: Thank you, Jaime. I guess from a menhaden standpoint, I trying to figure out how this is any different than what we're doing right now. We're going out to public hearings, we're talking to the reduction fishery and the bait fishery. We're looking at divvying up things. We've got to deal with the recreational fishery.

What would we get from this exercise that's not just academic and that would really be boots-on-the-ground management options? I don't understand that or can't really get that in my head. All I can see from a state director's perspective is we had public comments about the fact that we don't have a good handle on the bait catches in certain states, and we've got 300 Grand.

I bet those states could come up with a way to get those bait estimates with that 300 Grand. That's my comments on that, and I guess it partly is a question; what would get from this that would facilitate our decision-making approaches that we don't already have and would it really change the way we make decisions?

MR. TOWNSEND: I would like to respond to that and I would also like to respond to Mr. Geiger's comments. We actually have been discussing the National Conservation Training Center and so we appreciate that recommendation. As far as what we would get, I think certainly the public comment period will certainly help inform some of the MODA, but I think you're getting a lot of input from a large group of people.

It will be a lot of comments and it's going to be hard to turn those comments into ecosystem-based reference points. What we're talking about at the end of this is we would have those lists of explicit ecosystem-based reference points; that if approved, could be taken into the management process. Often working with a smaller representative group, it's easier to come to a consensus. When you have a large group of comments, it's sort of harder to come to consensus with that sort of thing, but I certainly think the public comment period would be useful for this process.

CHAIRMAN DANIEL: Well, let me follow up because I want to make sure that I understand and I'm on board with this whole process. We've got a threshold rate of 15 percent and a target of 30 percent with the idea that if we achieve 30 percent, that menhaden will be providing their ecosystem function. I mean that's why we made the decision we made in Boston, and so we are now going to be looking at the various measures that we need in order to get there.

In contrast to the biological reference points that we have selected and we're moving forward with, what is an ecological reference point and give me a specific example of an ecological reference point and how that would affect our management and how that would affect our decision-making after 2014.

MR. TOWNSEND: That's a good question. I think the process we use now, it's a single-species focused process with overfishing and overfished limits. It really is based on single-species model, but with a precautionary approach, of course, that should account for some of the ecosystem concerns.

In this approach we more explicitly with multispecies and ecosystem models estimate those multispecies management concerns as ecological concerns and have perhaps reduced some of the uncertainty in some of the reference points that were going forward and also helped clarify how the menhaden fishery and its reference points impacts or is impacted by other fisheries, which seems to have been expressed as a concern today. This was again a request that was put forth to the Multispecies and Menhaden Technical Committees a few years ago.

MR. GIBSON: Mr. Chairman, I think I'm getting some of the same willies that Doug Grout had here. I'm looking at this two-page handout and it said the board's task is to develop ecological reference points that recognize the role of Atlantic menhaden as a forage for other managed species.

That seems to me to be a fairly narrow and understandable task and an appropriate task for the commission, but then we work down into the problem statement it starts to morph into explicit sets of ecosystem management objectives, ecosystem reference points and a stakeholder process that to me will start to be an attractor for many things beyond menhaden as a forage for other managed species such as their role in water quality through their predator/prey relationships with zooplankton and phytoplankton and so on.

I thought what we were talking about early on was the first task there, menhaden as a forage for other managed species, building that kind of stock assessment model for menhaden which incorporates predator fields from the other key species that the commission is responsible for. It looks to me like this MODA is going to potentially draw in a lot bigger suite of objectives than just in that first task. I think the board needs to be clear as to what it is they want to come out of this and how narrow it should be or broad a net they're going to cast.

MR. WHITE: I agree with Mark. I guess to fully understand this we're going to use the striped bass stock assessment and the bluefish stock assessment and the weakfish stock assessment, et cetera, in this model?

MR. TOWNSEND: Well, we would probably use some of the multispecies sorts of stock assessment models that we have or are developing like the MS-VPA. We're also developing a multispecies statistical catch-at-age model and a few other models that could potentially be used for this. It would again be dictated by what the management objectives were. Those are sort of the core ones we have available, but modification of those or whatnot would depend on the management objectives that came out in the first stage. We would try to use the appropriate tool for the objectives listed here.

DR. GEIGER: Mr. Chairman, I think Mark's point made my point very important that the problem statement – the magnitude or the duration or the extent of the problem statement is something that this board really needs to look hard at. I would hope that nobody has concerns or angst about the process that the folks have laid out to do this. I think it's very complete, very well laid out, and I think it's very appropriate and has been proven to be successful again in a variety of controversial resource management issues.

Again, I think for this board's purpose I think more thought and more discussion on the problem statement will be very, very beneficial. I think you've sort of seen the beginnings of that right now. I think Mark raises a good point and I think just having some more discussion on that or maybe even some more thought and time to think about that would be very beneficial for this process. Thank you, Mr. Chairman.

MR. STEPHEN R. TRAIN: Mr. Chairman, I won't get to play this new-guy card very often so I'll try it now. I wasn't here when you authorized this type of thing, and I think multispecies ecosystem management is a great concept but if you're – well, you're talking about menhaden. If you're dealing with a forage fish, can you manage that on an ecosystem base without managing the fish involved on the same ecosystem base? I mean, how far down are you going to go with one? Don't you have to do them all at the same time? If you start with one, it seems like the last one on the bus there is no room.

MR. TOWNSEND: That's a very good question. This is a new approach for a lot us here. We're getting into the whole long history of ecosystem-based management; but you're right, ultimately we would think that this sort of

ecosystem-based reference points in menhaden would mean something for other species.

For example; and I'm not saying that we're going to use this reference point, but one of the indicators we discussed in the technical committee was sort of a predator to menhaden ratio or something like that that we would calculate every year with stock assessments. That has implications.
You can change the ratio but you're changing the top or the bottom of the ratio, right, so that would then open up that sort of discussion for other species and other technical committees. It would open up the door for that sort of thing but ultimately we're just responding to the task for now that we were asked to develop ecological reference points for menhaden.

CHAIRMAN DANIEL: What exactly does this board need to do here today? We need to make our recommendation as to whether to continue with the MODA process or not is the question that we're asked. I assume by endorsing this we are endorsing the funding?

MR. TOWNSEND: I'm unclear on how the funding – who would actually disburse the funding or that sort of thing. By endorsing this, it would also enable us to seek outside funding as well. Just to Mr. Geiger's earlier point, I think part of the MODA process in the initial part could be to develop that problem statement.

MS. FEGLEY: Mr. Chairman, I might be redundant. I just want to remind everyone that the reference points that we adopted in Boston, they were stated to be interim reference points until we develop ecosystem reference points. I'm a big proponent of this sort of process. I think we have these reference points we put in, if you will, as a proxy to increase abundance for ecosystem, but at a certain point we still asked for this ecosystem reference points to happen. We're going to get back into that issue of how much is enough; and it's fair to say that with menhaden, it's a polarizing issue.

We have a constituency that would say you need all the menhaden in the world. We have a constituency that would say we don't need all the menhaden in the world. We have valuable commercial fisheries. We may want a striped bass fishery that's populated with the maximum number of 40-inch-plus trophy fish or maybe we want – you know, what do we want?

Until those goals are established and until we start to look at that question, how much is enough? That is actually a societal question. There are scientific boundaries to that, but it's a societal question. I think this is what will help us answer that question; although the point that we need to very finely define that problem statement, that's a key issue. Thank you.

MR. JOHN DUREN: There is not a motion on the floor now is there, Mr. Chairman? I'm going to make one, but I'll do a little preamble. It seems that we're not all hearing the same music and so we're having trouble dancing on this issue, and we're having a little trouble deciding what guidance to give the Multispecies Technical Committee. **I'm going to move that we postpone action on this until our next meeting and we ask the multispecies committee to come back with a clearly defined problem statement with the parameters and the limits that would be included and also to give us a clear notion of how it would be funded.**

CHAIRMAN DANIEL: I have a motion from John Duren; second from Pat Augustine. Pat.

MR. AUGUSTINE: Mr. Chairman, on the motion, no question what Dr. Geiger and Mark Gibson said with the concerns that they had. Jaime in particular highlighted a couple of things that should be included – and I was going to call it a white paper – if the group would report to us at our next meeting, it would be extremely helpful.

I think the process is where we want to go. Again, when we talk about funding, I think we need absolute knowledge of where the money is coming from so we don't end up having to fund this once the ball gets rolling and find ourselves taking from Peter to pay Paul again. In the long run there is no question that this is going to be a very valuable tool. Thank you, Mr. Chairman.

MR. HIMCHAK: Mr. Chairman, I think what would help the board is if the Multispecies Technical Committee, recognizing that ecosystem-based management reference points are beyond multispecies management, if they would identify within you said 300 to $500,000 for cost and consultants, what other disciplines would be required to augment the Multispecies Technical Committee to essentially encompass the entire trophic structure to come up with a reference point.

Because whenever the technical committee – when I was on the technical committee for menhaden and we were asked, our

recommendation to the board was that we would have to drag in other disciplines dealing with primary and secondary productivity because it was beyond our grasp; and how to incorporate reference points, I couldn't begin to imagine.

MR. WHITE: I guess I have some concern that isn't defining the problem the board's task and not the technical committee?

CHAIRMAN DANIEL: I don't see any other hands up so I'm going to call on me. I think it is, Ritchie, but I'm going back in some history here and looking at the issues involved in multispecies management. Recognizing the work that has been done in the Chesapeake Bay, for example, to try to model that small ecosystem in comparison to the east coast of the United States, the best and the brightest can't do it. They're looking at anchovies, they're looking at anchovy spawning cycles, they're looking copepod abundance, chlodosterine abundance.

They're looking at the impacts of gelatinous zooplankton predators, for hydromedusae and ctenophores and all these things on eggs and larvae, all of which have a direct impact on menhaden abundance. Not to even mention the bluefish, the striped bass or the dogfish, you've got to add the bluefin tunas and king mackerels and the Spanish mackerels and the fish in the inside waters, the estuarine waters where the juvenile recruit.

I can't get my head wrapped around ecosystems management as a management tool. It's a wonderful academic exercise. It's cool, it's fun to look at, but we don't have any diet information for most of these species. We don't have any of this egg and larval abundance information that I'm aware of, any of these mortalities that are in the 0.99 range.

I guess my question early on was what is a multispecies reference point – I still haven't gotten an answer to that question – and how would that impact our management approach? It all sounds good. It's certainly important, but I think this white paper needs to describe how the rubber meets the road for the Menhaden Management Board; not just that it's cool and it's neat and it's going to give us some information.

We've got a lot of information, but I think there are going to be a lot more holes and a lot more questions from the results than there will be answers. That may be a minority opinion but I did feel like I needed to express that opinion as the chair. I had Mr. Abbott.

MR. DENNIS ABBOTT: Mr. Chairman, being a lot dumber than you, I've surely had a lot of trouble wrapping myself around this. I support the motion, I think, but the issues that I have is just looking we're operating under our 2012 budget. I don't see that we could possibly take money out of that budget to support this at any level.

As we manufacture the 2013 budget, with the tight finances that we're dealing with and difficulties and maintaining our funding from the feds, I see this as a big problem. If we funded this, we would be looking at where are we going to cut back in other areas to do this. I see that as a great difficulty so the funding issues are concerning to me even beyond understanding this. I do believe it might be a good thing to do. The more we know the more we can do, but I'm very concerned about moving forward with this.

DR. GEIGER: Mr. Chairman, I appreciate your comments and again I certainly understand everybody's concern around this board. However, I want to again reemphasize that the ASMFC has engaged in this process before. The Horseshoe Crab and Migratory Shorebird ARM Model is a prime example. Where else do you get such a diverse problem, birds and horseshoe crabs together, and come out with a model that is going to help us manage at least one of those species and add to the knowledge base of the other.

I do think there is precedent for this board to do these activities and I think we have demonstrated success in achieving some of these activities. I think John's suggested motion is very appropriate given the level of questions and concerns. I think the key issue that we need to resolve in this white paper is clearly identifying the problem statement.

I think the cost – it's too premature to look at the costs and be concerned with those. I think we need to define the problem statement and the benefits of achieving those stated goals and objectives. Once that is clear and laid out, I think this board will have at least more comfort level to get there.

Mr. Chairman, again, I share some of your concerns, and you rightly raised the right concerns, and I think we all agree with that, but again this board has an obligation. We have identified to go along this path and I think this is

a good first step to get us along that path. Thank you, Mr. Chairman.

CHAIRMAN DANIEL: Thank you. Howard, you wanted to respond?

MR. TOWNSEND: Yes, just a few comments. About the funding, if this is a process that is approved by the board, that would certainly go a long ways towards us being able to find external funding if we can say we have this proposal and this would really improve or help ecosystem-based fisheries management. I think that would draw the attention of a lot of potential external funds so that we would alleviate some of the concerns about internal funding.

Another thing to keep in mind is we can certainly more narrowly define this to be maybe more of a multispecies management. I can certainly speak to your concerns about coming up with estimates of primary productivity and copepods and those sorts of things. I think part of that is what we had envisioned happening in that first sort of objectives' session in this.

Perhaps there is a wide array of interest among the stakeholders on what the objectives should be, and the technical committee who is familiar with the models and the data could say those are great objectives but given the data and models we have available and the tools we have available today we would have to limit some of the objectives that we consider. I think some of these sorts of concerns would be cleared up in that first phase of this proposal. Thanks very much.

MR. MEYERS: Mr. Chairman, I support the proposed motion and want to sort of confirm Dr. Geiger's points on this. Frankly, Mr. Chairman, I want to call the question.

CHAIRMAN DANIEL: The question has been called and the motion is on the floor. The motion is move to postpone action until the May 2012 board meeting and task the MSTC with development of a clear problem statement, provide a detailed budget and potential funding options.

The motion was made by Mr. Duren; second by Mr. Augustine. Is there any further discussion on the motion? Do we need to caucus? Seeing none, all those in favor raise your right hand; negative, the same sign; null votes; abstentions. **The motion passes unanimously;** 17 to nothing. I think that was a good discussion. Do you want to take us home, Mike, with the request on the development teams and the economic stuff?

PLAN DEVELOPMENT TEAM MEMBERSHIP

MR. WAINE: Mr. Chairman, this action item is to populate the plan development team. **Jason McNamee from Rhode Island, Harry Rickabaugh from Maryland and Joe Grist from Virginia have been nominated to be appointed to the plan development for Atlantic menhaden.**

CHAIRMAN DANIEL: Motion by Mr. Adler; second by Mr. Augustine to add those individuals to the plan development team. The motion is to approve Jason McNamee, Harry Rickabaugh and Joe Grist to the plan development team. Steve.

MR. MEYERS: Mr. Chairman, as a friendly amendment, given the fact that our actions with menhaden would also potentially include actions within the EEZ and a secretarial action, I would like to suggest that Mr. Derek Orner of our staff be included on this list.

CHAIRMAN DANIEL: Without objection? Seeing none, so ordered. I'll read it again: move to approve Jason McNamee, Harry Rickabaugh, Derek Orner and Joe Grist to the PDT. Is there any objection to that motion? **Seeing none, the motion caries.** Next.

COMMITTEE ON ECONOMIC AND SOCIAL SCIENCES MEMBERSHIP

MR. WAINE: **The Committee on Economic and Social Sciences has recommended Dr. Peter Schumann be appointed as an economist reprehensive to the plan development team and technical committee for Atlantic menhaden.**

CHAIRMAN DANIEL: Can you give the board just a brief one sentence or two sentence review of Dr. Schumann.

MR. WAINE: Yes, Dr. Schumann is at UNC-Wilmington and his research interests are in fishery policy, analysis, recreation demand, discrete choice models for non-market valuation of environment amenities and natural resources.

CHAIRMAN DANIEL: Motion by Mr. Augustine to accept that nomination; second by Mr. Adler. The motion is move to approve Dr. Peter Schumann to the PDT and the technical

committee. Is there any further discussion on the motion? Jack.

MR. TRAVELSTEAD: I guess I have a concern to some degree. Let me just note that Dr. Kirkley at VIMS, before his passing last year, prepared a fairly detailed economic impact analysis of various quotas on the reduction fishery in the Chesapeake Bay that is probably one of the best impact analyses that we have for that fishery.

It's my understanding that Dr. Winnie Ryan assisted him in those analyses, so she has some background and understanding of the menhaden fishery, so I'm just kind of curious why the committee didn't recommend her. I don't know anything about Dr. Schumann and I don't have anything against him, but given Dr. Ryan's background it seemed like she might be more appropriate.

CHAIRMAN DANIEL: Jack, from understanding, this is a volunteer committee and we could add her if she has time to do it. She is also serving on the Shad and River Herring.

MR. TRAVELSTEAD: I'll be glad to talk to her about that.

CHAIRMAN DANIEL: I wouldn't have any objection if we had two. Owing with what we've got to deal with over the next year with menhaden, the more the merrier. I don't know Dr. Schumann either and that's why I asked Mike to read his brief bio. I don't think anybody would object to having a second if she is willing to do it. Until we talk to her, I think we can go ahead and populate it with Dr. Schumann and then maybe at the May meeting add your request; is that okay?

MR. TRAVELSTEAD: That's fine by me and that will give me a chance to speak to her.

CHAIRMAN DANIEL: Okay, that's good. All right, the motion is move to approve Dr. Peter Schumann to the PDT and TC. Is there any further discussion on this motion? Is there any objection to the motion? **Seeing none, that motion carries.**

ADJOURNMENT

CHAIRMAN DANIEL: That brings us to other business. Is there any other business to come before the Atlantic Menhaden Board? Seeing none, we are adjourned.

(Whereupon, the meeting was adjourned at 11:55 o'clock a.m., February 8, 2012.)

Atlantic States Marine Fisheries Commission
Atlantic Menhaden Technical Committee

Alternative Reference Point Guidance Document

March 2011

BACKGROUND

At its May 2010 meeting, the Menhaden Board passed a motion tasking the Menhaden TC to develop alternative reference points. In addition, the Policy Board directed the Multispecies TC to be available to work with the Menhaden TC to explore reference points that account for predation. The Board asks the TC to complete the following tasks:

A. Develop a suite of alternative biological reference points, including:
    1. Spawning stock biomass or population fecundity relative to the unfished level
        a. Develop a range of associated SSB threshold and target options, using other clupeid and forage fish species as reference
    2. An abundance-based reference point
    3. Evaluate whether an F-based reference point is appropriate for menhaden
        a. If not appropriate, present justification for discontinuing its use
        b. If appropriate alternatives exist, present new options

B. List pros and cons of alternatives for use in management.

C. Conduct projections of abundance, spawning stock biomass, or population fecundity for alternatives where projections are appropriate.

D. Work with the MSTC in developing alternative reference points that account for predation on menhaden and provide guidance to the Board

E. Develop a range of management strategies that can be used to achieve these reference points (e.g., coastwide cap).
    a. Include workload demands of the Technical Committee(s) associated with each management strategy

A suite of alternative reference points for Atlantic menhaden has been prepared by the Atlantic menhaden Technical Committee and the Multispecies Technical Committee and are outlined in this document. Each alternative reference point approach has the potential to provide different management advice. The purpose of this paper is to facilitate decision-making by outlining the specific management goals, potential benefits, and caveats for each reference point approach.

The menhaden TC identified three potential management goals that may be addressed by this suite of alternative reference points. A description of each approach can be found in the next section. The three potential management goals are:

Goal 1: Increase abundance and spawning stock biomass of menhaden for the benefit of the stock (a "single-species focus")
Goal 2: Increase recruitment of menhaden for the benefit of the stock (a "single-species focus")
Goal 3: Increase forage base for predators of menhaden (an "ecosystem approach")

One or more of these goals may be achieved through the suite of reference point approaches discussed below. If the Board has additional management goals, the TC can provide guidance on how to achieve those goals once they have been clearly identified.

REFERENCE POINT APPROACHES

Maximum Spawning Potential (MSP)

Task: The Board charged the TC with calculating the fishing mortality rate associated with current (9%), 15%, 25%, and 40% maximum spawning potential (MSP).

Description: A maximum spawning potential (MSP) approach identifies the fishing mortality rate necessary to maintain a given level of stock fecundity relative to the potential maximum stock fecundity under unfished conditions. For example, if the Board were to set an MSP goal of maintaining status quo (9% MSP), the TC could provide an estimate of the fishing mortality rate threshold ($F_{9\%}$) required to maintain approximately 9% of virgin stock fecundity. These reference points are sometimes also referred to as "spawner per recruit (SPR)" reference points

Primary goal addressed:
Goal 1: Increase abundance and spawning stock biomass of menhaden for the benefit of the stock (a "single-species focus")

Potential benefits:
1. The adoption of higher %MSP threshold reference points (lower fishing mortality) should result in higher abundance and spawning stock biomass with slightly lower landings than have been reported in recent years (see SPR projection reports).
2. This approach may also address **Goal 2**. Over the period of known exploitation, menhaden recruitment appears to be independent of fishing mortality and spawning stock biomass, indicating environmental factors may be the defining factor in the production of good year classes. If menhaden recruitment is largely environmentally driven, adoption of an MSP approach may not result in better recruitment. However, there is a possibility that the stock may be able to take greater advantage of favorable environmental conditions if a larger percentage of spawning adults remain in the population.
3. This approach may also address **Goal 3**. If abundance and biomass of the stock increases, the forage base for predators of menhaden should increase. However, an increase in forage does not always imply increased consumption by predators since predator-prey interactions are governed by a suite of other biological and

ecological factors. And note that MSP reference points cannot be used to provide formal insight about ecosystem benefits other than the notion that higher % levels of MSP should provide greater ecosystem benefit and lower % levels of MSP will likely provide greater benefit to the fishery.

Caveats:

1. An MSP approach assumes no changes are occurring in the stock's biomass, fishery selectivity, fecundity, and natural mortality-at-age (i.e. equilibrium conditions will be maintained). Given the many changes this stock has undergone in the last few decades, the TC is concerned that this assumption will likely be violated and the MSP reference points could generate misleading management advice. Therefore if the Board chooses to adopt MSP reference points, ***the TC advises the Board to use results based on the most recent years of input data***, recognizing that they may not be representative of the entire time series.
2. If the Board chooses to implement an MSP management scenario, the TC believes annual quota estimation and stock assessment updates would be ideal. An increase in assessment frequency is likely not possible in the foreseeable future, which implies that quota setting for "off" years will have to be based on the most recent assessment and projection analyses.
3. An MSP approach can provide overfishing definitions, but will not yield overfished definitions.

ACTION: If an MSP reference point approach is selected, the Board will need to choose an MSP level (percentage) threshold and target (if desired). Stock projections assuming different levels of %MSP and recruitment have been provided.

Abundance-based approach

Task: The Board charged the TC with developing abundance-based reference points.

Description: Here abundance-based reference points are defined in terms of total number of menhaden. This approach typically involves the ad hoc selection of a reference time period during which some measure of stock abundance (usually the median number) is considered adequate by managers. Current abundance is then compared with the reference measure of stock abundance to determine if it has the population has declined to an unsatisfactory level.

Two abundance-based approaches were considered by the TC. The first approach was a simple set of comparisons between the estimated number of menhaden in 2008 relative to median conditions observed over the last 10 and 30 years for age classes 0, 1, and 3+. The second approach explored the use of the coastwide aggregated juvenile abundance index as a predictor of the adequate population size necessary to avoid recruitment failure (Butterworth and Redemeyer report). The TC reviewed the approach presented by Butterworth and Rademeyer and determined that it could serve as a viable tool for

preventing recruitment failure and could be adjusted to reflect desired management objectives. Both methods would provide overfished definitions of stock status.

Primary goal addressed:
Goal 1: Increase abundance and spawning stock biomass of menhaden for the benefit of the stock (a "single-species focus")

Potential benefits:

1. The adoption of ad hoc abundance threshold reference points (a result of lowering fishing mortality) should result in higher abundance and spawning stock biomass.
2. Abundance-based reference points have the potential to address **Goal 2**. As described above (MSP section), adoption of an abundance-based reference points may not result in better recruitment. However, there is a possibility that the stock may be able to take greater advantage of favorable environmental conditions if a larger percentage of spawning adults remain in the population.
3. If ad hoc reference points based on ages 0 or 1 are chosen, management will be focused on maintaining abundance of young fish, potentially at the expense of managing for spawning stock biomass. If ad hoc reference points based on ages 3+ are chosen, then all fish are considered equal, not accounting for increased fecundity with age. However, an age 3+ reference point would provide a better index of spawning stock than reference points based on ages 0 or 1.
4. Abundance-based reference points may also address **Goal 3**. As described above (MSP section), the forage base for predators of menhaden should increase if abundance and biomass of the stock increases. Ad hoc reference points based on ages 0 or 1 would provide an index of forage availability for predators of menhaden. However, as described above, abundance-based reference points cannot guarantee increased predation by predators or be used to quantify changes in forage availability or consumption rates.

Caveats:

1. There is not a strong biological basis for using abundance-based reference points since menhaden egg production increases with fish size/age. In theory, recruitment should be more directly related to total fecundity or total spawning stock biomass since not all menhaden are equivalent in terms of the number of eggs produced in any given year. The stock-recruitment relationship defined as recruits related to numbers of mature menhaden showed no clear pattern (i.e., no improvement when compared to recruits as a function of fecundity), so this approach does not appear to confer a significant advantage over status quo. If management objectives are focused on prevention of recruitment failure, then the Butterworth and Rademeyer approach may prove viable. However, if management is designed to protect spawners for the purpose of perceived gains in future recruits, then the TC recommends that great caution be exercised with the use of abundance-based reference points.
2. An abundance-based approach does not provide an overfishing definition.

ACTION: If simple ad hoc abundance-based reference points are adopted, the Board will need to choose an abundance reference period (e.g. 10 vs. 30 years) and an age grouping (e.g. 0, 1, 3+) to define the threshold and target. If the Butterworth and Rademeyer approach is adopted, the time period across which the JAI should be examined would need to be selected to identify the most conservative limit reference point.

Multispecies approach

Task: The Board requested the TC provide an evaluation of the suite of multispecies reference point and modeling approaches provided by the Multispecies Technical Committee.

Description: The menhaden TC reviewed four modeling approaches for generating menhaden reference points that explicitly include predation effects. The two methods suggested by the menhaden TC for short-term implementation are described below (see handout for TC comments on all four approaches).

1. *Multispecies Virtual Population Analysis*: The MSVPA models population dynamics of striped bass, weakfish, bluefish, and menhaden while estimating the predation effects of these three major predators on menhaden. In its present state, the MSVPA can be used to develop predator-prey ratios and estimates of food availability (menhaden) as reference points or triggers. It is also available for management strategy evaluation. If the Board were to adopt ecological reference points (**Goal 3**), the MSVPA was deemed the most viable option that has been presented to the TC.
2. *Steele-Henderson model*: The Steele-Henderson approach uses a biomass dynamic (age-aggregated) model to estimate menhaden dynamics with the addition of predator biomass as an index that is negatively related to menhaden abundance. The menhaden TC suggested that the Steele-Henderson be run as a secondary model to the MSVPA if ecosystem reference points were adopted by the Board. The TC felt that comparing results from the Steele-Henderson model with that of the MSVPA would be instructive; similarities between models would provide additional support for estimated trends, whereas differences between models would help identify key assumptions in one or both models that may be violated.

Primary goal addressed:
Goal 3: Increase forage base for predators of menhaden (an "ecosystem approach")

Potential benefits:

1. *Multispecies Virtual Population Analysis*: The MSVPA explicitly incorporates all known sources of diet and abundance information for menhaden and its major predators. Also, the model has been peer-reviewed and updated recently by the Multispecies TC. Output from the MSVPA can be used to develop biological reference points that account for predation.

2. *Steele-Henderson model*: In addition to providing an alternative approach to estimating menhaden dynamics in the presence of predation, the Steele-Henderson model has the potential to generate non-equilibrium maximum sustainable yield-based reference points.

Caveats:

1. MSVPA: The Multispecies TC would need additional time to develop appropriate reference points or triggers based on objectives defined by the Board. The model should be regularly updated when new stock assessment and diet information become available. The MSVPA is limited in terms of the number of modeled predators and additional model development would be necessary to provide estimates of uncertainty.
2. Steele-Henderson model: Reference points have not yet been generated, although doing so is possible. The model relies on comparison of predator indices, not on diet information or explicitly modeled predator-prey dynamics. This particular application of the Steele-Henderson model for menhaden would benefit from additional refinement and testing before use in management, including the exploration of additional available indices for key species in the model.

ACTION: If multispecies reference points are adopted, the Board will need to quantify its goals for establishing predator-prey ratio threshold or triggers and the magnitude of the desired increase in forage availability. The Board will also need to identify the predator species of interest since additional model development would be necessary to include species other than those considered thus far.

Options for Addressing the Ecological Reference Point Development Task

Atlantic Menhaden and Multispecies Technical Joint Subcommittee Report
May 2012

Board Task: The Atlantic Menhaden and Multispecies Technical Committees have been tasked with **"developing ecological reference points (ERPs) that account for predation"** (May 2010 Motion #5) with the multispecies goal of **"increasing forage base for predators of menhaden"** (May 2011 Motion #5 and TC Alternative Reference Point Guidance Document).

Progress to date: The Atlantic Menhaden and Multispecies Technical Committees produced a set of potential ERPs and management triggers that could be explored and further developed for use in Atlantic menhaden management.

Problem statement: Goal of "increasing forage base for predators of menhaden" is too broad. As stated in the TC's Alternative Reference Point Guidance Document (May 2011; included in May 2012 briefing book as well), the TC cannot revise and finalize their proposed ERPs until the Board provides the following feedback:

1. quantify goals for establishing predator-prey ratio threshold or triggers,
2. quantify magnitude of the desired increase in forage availability, and
3. identify the predator species of interest.

The current configuration of the MSVPA includes striped bass, bluefish, and weakfish. However, managers may wish to either add other predators of concern (e.g., spiny dogfish), or reduce potential complexities and concentrate on key predators of management interest (e.g., focus efforts on striped bass). Most importantly, the TC needs to know at what biomass levels managers would like to maintain key predators (e.g., threshold or target). **To provide adequate feedback for the TC to proceed, managers will need to explicitly state ecosystem management goals and objectives.** This may involve ecological and socio-economic considerations and tradeoffs outside the TC's realm of expertise. Collaboration among multiple ASMFC Species Boards may also be required.

Current situation: Unless managers provide the TC with additional guidance or rescind the ERP task, the TC will be obliged to continue with ERP development assuming the task should be interpreted as follows:

"*Quantify the amount of menhaden biomass necessary to sustain the forage needs of striped bass, bluefish, and weakfish predators at their threshold biomass levels.*"

The TC anticipates that managers may not be completely satisfied with this interpretation and that refinement of this task will be achieved only after extensive, inefficient back-and-forth interactions between the TC and the Board over several years, thus delaying the development of ERPs. In addition, the TC is concerned this approach to ecosystem-based management is not rigorous enough to pass peer review because it does not adequately address important ecosystem uncertainties. For example, the human component of the ecosystem is completely unaccounted for in this approach. The TC proposes Multiple Management Objective Decision Analysis as an alternative way of proceeding with ERP development (see Option 1 below).

Alternative Approaches:

Option 1) Multiple Management Objective Decision Analysis (MODA): a formal ERP evaluation process implemented through a series of facilitated workshops (see Figure 1 below) that would:

- Involve representative Board members, key stakeholders, and technical committee members
- Use a facilitated "Structured Decision-Making" process to come to consensus on an explicit set of ecosystem management goals and objectives and ERP performance measures
- Collaboratively develop models to evaluate ERP performance under a suite of uncertain environmental conditions
- Transparently evaluate and review potential consequences of ERPs
- Produce recommended set of ERPs for Atlantic menhaden that are most likely to adequately meet the consensus ecosystem goals and objectives

MODA would help the Board to evaluate the unanticipated consequences of managing a forage fish like menhaden through collaborative model development and performance evaluation. MODA is inclusive and transparent such that managers and stakeholders are involved throughout the goal-setting and ERP evaluation process. ***This option is recommended by the TC***.

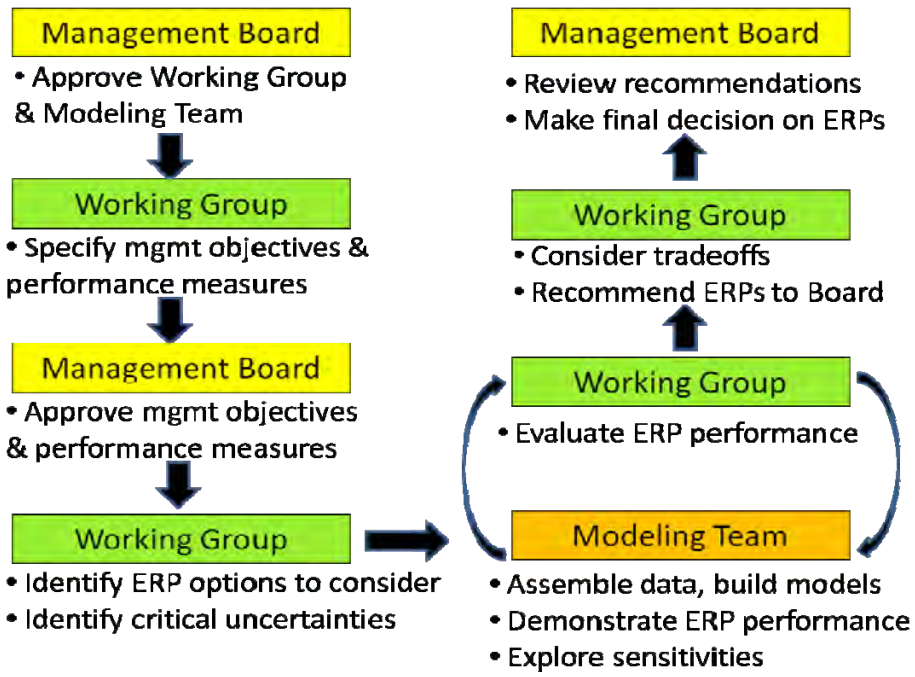

Figure 1: Flowchart of major milestones in the MODA process

MODA-style approaches have been successfully applied in other fisheries, including the Adaptive Resource Management program adopted by the ASMFC Horseshoe Crab Board, the king mackerel FishSmart program used to inform the South Atlantic Fisheries

Management Council, the integrated grouper assessment project in Florida, and others in the United States and around the world (Bence et al. 2008, Irwin et al. 2008, Jones and Bence 2009, Miller 2010, Irwin et al. 2011).

MODA Outcomes & Deliverables:

- Explicit list of ecosystem management goals and objectives for the Atlantic menhaden stock
- Set of performance measures for evaluating ability of ERPs to meet management goals and objectives
- A quantitative evaluation of ERP performance under a suite of uncertain environmental conditions
- Set of rigorously evaluated ERPs for the Board to choose from and send to peer review during 2015 benchmark
- Set of menhaden and predator modeling tools for future use.

Option 2) Facilitated goal-setting workshops: set of two facilitated workshops including representative Board members and key stakeholders aimed at developing consensus ecosystem management goals and objectives statements to help guide the TC in ERP development. This option requires less investment, but it does not include rigorous performance evaluation of ERP options.

Workshop Outcomes & Deliverables:

- Consensus list of ecosystem management goals and objectives

Reasons TC supports MODA:

The major difference between Option 1 (MODA) and Option 2 (Facilitated goal-setting workshops) is that MODA includes collaborative building of models that incorporate ecological uncertainty. MODA also includes rigorous testing and evaluation of ERPs by the working and modeling groups. The TC prefers MODA because

- TC would not be forced to speculate on Board and stakeholder goals for ecosystem
- MODA ERP evaluation steps will help managers explore and prepare for unanticipated consequences of ecosystem management
- Similar processes have been adopted successfully for other contentious management issues by ASMFC and member states
- MODA modeling tools have future utility in harvest policy analysis and simulation testing of single-species models

Timeline and Estimated Budget:

The TC assumes the most efficient way to proceed is to have ERPs, their supporting models, and the next single-species menhaden model reviewed together in 2015. Without additional guidance from the Board, the TC anticipates preliminary results could be produced as soon as spring 2013 (tools and methodologies established); however, models will need updating and enhancing to finalize results for the 2015 benchmark. If Option 2 is pursued, an additional 6 months would be added to the current situation timeframe for completion during which two facilitated workshops would be held. If Option 3 is pursued, results of the MODA process should be available within two years from the time the project begins.

The ASMFC plans to budget for two face-to-face meetings of the Atlantic Menhaden and Multispecies Technical Joint Subcommittee annually until this task is completed at the cost of approximately $20,000/year. MODA (Option 1) would cost an additional $150,000/year for two years. For comparison, note that the horseshoe crab/red knot model cost approximately $100,000/year, not accounting for in-kind contributions from the USFWS. Facilitated goal-setting workshops (Option 2) would cost an additional $50,000. Outside funding would be sought from sources such as NOAA or private foundations to cover the additional expense of Options 1 or 2.

Table 1. Estimated budget and timeframe for completion.

Option	Timeframe for Completion	Budget
Current situation	1 year	ASMFC budget = $20,000/year
1 - MODA	2 years	+$150,000/year
2 - Workshops	1.5 years	+$50,000 total

Table 2. Itemized budget estimates for Options 1 and 2.

Item	Option 1 MODA	Option 2 Workshops
Facilitator(s)	$20,000	$20,000
Modeling consultant	$100,000	
Travel	$30,000	$30,000
Total annual	**$150,000**	
Total for project	**$300,000**	**$50,000**

Literature Cited:

Bence, J. R., M. W. Dorn, B. J. Irwin, and A. E. Punt. 2008. Recent advances in the evaluation and implementation of harvest policies. Fisheries Research 94:207–209.

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Miller, T. J., J. Blair, T. F. Ihde, R. M. Jones, D. H. Secor, and M. J. Wilberg. 2010. FishSmart: an innovative role for science in stakeholder-centered approaches to fisheries management. Fisheries 35(9):424–433.

Atlantic States Marine Fisheries Commission

PUBLIC INFORMATION DOCUMENT

For Amendment 2 to the Interstate Fishery Management Plan For

ATLANTIC MENHADEN

February 2012

ASMFC Vision Statement:
Healthy, self-sustaining populations for all Atlantic Coast fish species or successful restoration well in progress by the year 2015

The Atlantic States Marine Fisheries Commission seeks your input on the initiation of Amendment 2 to the Atlantic Menhaden Fishery Management Plan

The public is encouraged to submit comments regarding this document during the public comment period. Comments must be received by **5:00 PM (EST) on April 20, 2012.** Regardless of when they were sent, comments received after that time will not be included in the official record. The Atlantic Menhaden Management Board will consider public comment on this document when developing the first draft of Amendment 2.

You may submit public comment in one or more of the following ways:

1. Attend public hearings held in your state or jurisdiction, if applicable.
2. Refer comments to your state's members on the Atlantic Menhaden Board or Atlantic Menhaden Advisory Panel, if applicable.
3. Mail, fax, or email written comments to the following address:

Michael Waine
Fishery Management Plan Coordinator
Atlantic States Marine Fisheries Commission
1050 North Highland Street, Suite 200A-N
Arlington, Virginia 22201
Fax: (703) 842-0741
mwaine@asmfc.org (subject line: Menhaden PID)

If you have any questions please call Mike Waine at (703) 842-0740.

YOUR COMMENTS ARE INVITED

The Atlantic States Marine Fisheries Commission (Commission) is developing an amendment to revise the interstate fishery management plan (FMP) for Atlantic menhaden. The Commission, through the coastal states of Maine through Florida, is responsible for managing Atlantic menhaden.

This is your opportunity to inform the Commission about changes observed in the fisheries; actions you feel should or should not be taken in terms of management, regulation, enforcement, and research; and any other concerns you have about the resources or the fisheries, as well as the reasons for your concerns.

WHY IS THE ASMFC PROPOSING THIS ACTION?

The 2010 Atlantic menhaden benchmark stock assessment Peer Review Panel noted that menhaden population abundance had declined steadily and recruitment had been low since the last peak observed in the early 1980s. Fishing at the fishing mortality (F) threshold reference point in the terminal year (2008) has resulted in approximately 8% of the maximum spawning potential (MSP). Therefore, the Panel recommended alternative reference points be considered that provide greater protection for spawning stock biomass (SSB) or population fecundity relative to the unfished level. In November 2011, the Atlantic Menhaden Management Board responded to that recommendation and adopted new F reference points. The new reference points are more conservative than the previous to account for the following: (1) while menhaden are not overfished the number of fish in the population has been declining, (2) while menhaden are important for many fisheries they also provide important ecological services, (3) strong recruitment classes may be dependent on favorable environmental conditions, and (4) recent science suggest conserving a larger percentage of the spawning stock. The new F threshold is $F_{15\%MSP}$ = 1.32 and the new F target is $F_{30\%MSP}$ = 0.62. The 2010 assessment estimated F for the terminal year (2008) to be 2.28, indicating that F had exceeded the threshold resulting in overfishing. Addendum V states that when overfishing is occurring the Board will take steps to reduce F to the target level. In order to reduce overfishing to the target, the Board needs to consider changes in the management tools used to regulate the fishery. This document proposes a suite of management tools that could reduce F.

WHAT IS THE PROCESS FOR DEVELOPING AN AMENDMENT?

The publication of this document and announcement of the Commission's intent to amend the existing FMP for Atlantic menhaden is the first step of the formal amendment process. Following the initial phase of information gathering and public comment, the Commission will evaluate potential management alternatives and the impacts of those alternatives. The Commission will then develop Draft Amendment 2, incorporating the identified management options, for public review. Following that review and public comment, the Commission will specify the management measures to be included in Amendment 2, as well as a timeline for implementation.

In addition to issues identified in this Public Information Document (PID), the Draft Amendment may include issues identified during public comment period of the PID.

The timeline for completion of Amendment 2 is as follows:

	Feb 2012	Mar 2012	Apr 2012	May 2012	June 2012	July 2012	Aug 2012	Sept 2012	Oct 2012
Approval of Draft PID by Board	**X**								
Public review and comment on PID Current Step		**X**	**X**						
Board review of public comment; Board direction on what to include in Draft Amendment 2				**X**					
Preparation of Draft Amendment 2					**X**	**X**			
Review and approval of Draft Amendment 2 by Board							**X**		
Public review and comment on Draft Amendment 2								**X**	
Board review of public comment on Draft Amendment 2									**X**
Review and approval of the final Amendment 2 by the Board, Policy Board and Commission									**X**

WHAT IS THE PURPOSE OF THIS DOCUMENT?

The purpose of this document is to inform the public of the Commission's intent to gather information concerning Atlantic menhaden and to provide an opportunity for the public to identify major issues and alternatives relative to the management of this species. Input received at the start of the amendment development process can have a major influence in the final outcome of the amendment. This document is intended to solicit observations and suggestions from fishermen, the public, and other interested parties, as well as any supporting documentation and additional data sources.

To facilitate public input, this document provides a broad overview of the issues already identified for consideration in the amendment; background information on the Atlantic menhaden population, fisheries, and management; and a series of questions for the public to consider about the management of the species. In general, the primary question on which the Commission is seeking public comment is: **"How would you like the Atlantic menhaden fisheries to look in the future?"**

WHAT GENERAL SSUES WILL BE ADDRESSED?

The primary issues considered in the PID are:

- Timeline to Achieve the F Target
- Timely and Comprehensive Catch Reporting
- Recreational Fishery Management Tools
- Commercial Fishery Management Tools

ISSUE 1: Timeline to Achieve the Fishing Mortality Target

Background: The new F reference points adopted by the Board are intended to be interim reference points while the Commission's Multispecies Technical Committee develops ecological-based reference points (ERP). The ERPs will take some time to develop due to the complexity of modeling predator-prey relationship in marine species that rely on menhaden for forage (e.g., striped bass, bluefish, weakfish). In either case (biological or ecological reference points) the intent is to manage Atlantic menhaden at sustainable levels to support fisheries and meet predator demands through sufficient SSB to prevent stock depletion and recruitment failure.

The current status of the Atlantic menhaden stock is not overfished, but overfishing is occurring. Through Amendment 2, the Board will take immediately actions to end overfishing. However, because the reductions in F are more substantial to achieve the F target, the Board is considering a one, three, five and ten year schedule to reduce F to the target level. Depending on the schedule for reducing F, a time stepped approach may be used in which F would be reduced in smaller increments until the target is reached. If the target F is to be achieved on a shorter time frame, annual reductions in landings may be more substantial than if the F was achieved over a longer time period with a time stepped F.

Statement of the Problem: Given that the current F (F_{2008} = 2.28) exceeds the F threshold ($F_{15\%MSP}$ = 1.32), and target ($F_{30\%MSP}$ = 0.62), the Board must take steps to reduce F to the target level.

Achieving the F threshold and target will require the implementation of management measures that lower landing levels compared to recent years. The 2012 stock assessment update, scheduled to be available in August, will provide a more current estimate of F. The intent is to simultaneously update the stock assessment while developing Draft Amendment 2 to provide the most accurate estimation of the harvest levels that are recommended to achieve the new F threshold and target.

The schedule for the stock assessment as it relates to Amendment 2 is as follows,
Feb 2012: Board approval of Draft PID
Mar 2012: Public review and comment on PID
Apr 2012: Compile data for stock assessment update
May 2012: Board review of public comment; Board direction on Draft Amendment 2
May 2012: Stock assessment modeling
June 2012: Preparation of Draft Amendment 2
June 2012: Assessment Workshop
July 2012: Finalize stock assessment update and Draft Amendment 2
Aug 2012: Review and approval of Draft Amendment 2 and 2012 stock assessment update

The constant landings scenarios explored below are based on the current overfishing status and are subject to change when an updated F is estimated through the 2012 stock assessment update. The projections illustrate how the F reference points may be achieved if the board chooses to adopt a constant landings approach.

For example, Table 1 explores different quota harvest levels and their respective probabilities of achieving the F threshold over a series of years given constant landing scenarios. Intuitively, lower landing levels have a higher probability of achieving the threshold, whereas higher landing levels have a lower probability of achieving the threshold. These projections assume constant landings, meaning if a specific landing level is maintained from one year to the next the probability of achieving the threshold increases. These principles also apply to the probabilities of achieving the target over a given time frame as detailed in Table 2.

The Board is considering landing levels that have a 0.50 to 0.75 probability (equates to a 50 – 75% probability) of achieving the threshold and target, because the higher the probability of achieving the threshold, the lower the risk of overfishing. Other fisheries have used similar levels of risk when attempting to reduce F to its respective reference point.

Table 1. The probability of the fishing mortality rate (F) being less than the THRESHOLD over time for given constant

Landings (1000s mt)	2013	2014	2015	2016	2017
75	0.56	0.89	1.00	1.00	1.00
100	0.40	0.74	0.93	0.99	1.00
125	0.28	0.55	0.78	0.91	0.96
150	0.17	0.37	0.56	0.73	0.84
175	0.10	0.22	0.35	0.47	0.56
200	0.05	0.11	0.17	0.22	0.28
225	0.02	0.05	0.07	0.08	0.09

Table 2. The probability of the fishing mortality rate (F) being less than the TARGET over time for given constant landing scenarios.

Landings (1000s mt)	2013	2014	2015	2016	2017
75	0.21	0.62	0.91	0.99	1.00
100	0.09	0.35	0.66	0.88	0.96
125	0.02	0.15	0.38	0.59	0.76
150	0.01	0.05	0.14	0.27	0.40
175	0.00	0.01	0.04	0.07	0.11
200	0.00	0.00	0.00	0.01	0.02
225	0.00	0.00	0.00	0.00	0.00

Public Comment Questions: Should the target F be achieved over one, three, five, ten years, or some other time frame? Does a 0.50 to 0.75 probability of achieving the threshold/target provide an appropriate level of risk? If the F is reduced over a number of years, how much of a reduction should occur each year, or should the reduction be constant across all years?

ISSUE 2: Timely and Comprehensive Catch Reporting

Background: The current catch reporting requirements for the Atlantic menhaden fisheries do not provide timely or complete data for use by managers and scientists, particularly the bait fishery. The current reporting program varies by fishery (bait and reduction), state, and gear type (Appendix 1, table 2). Reporting in the recreational fishery is done through the Marine Recreational Information Program (MRIP), and will only apply to fish that are caught and not menhaden that are purchased for bait. Additional monitoring requirements and timelier reporting would allow managers and fishermen to monitor the landings throughout the season, and evaluate the effectiveness of selected fishery management measures.

The current reporting structure for the Purse-Seine Reduction Fishery is as follows:
• Landings - Daily vessel unloads (in thousands of standard fish) are emailed daily to the NMFS.

• Age Compositions – A NMFS port agent samples purse-seine catches at dockside in Reedville, VA, throughout the fishing season (May through December).
• Removals by Area - Areal removals of Atlantic menhaden by the purse-seine reduction fleet are estimated using the Captains Daily Fishing Reports (CDFRs). CDFRs are deck logbooks maintained by Virginia reduction purse-seine vessels. Fleet compliance is 100% (about 10 vessels in 2011). Vessel captains complete CDFRs and itemize the number of daily purse-seine sets. Among other things, data recorded for each set include time and location of set, distance from shore, and the 'at-sea' estimated catch

CDFRs from the Reedville menhaden fleet are used to estimate in-season removals from Chesapeake Bay (Chesapeake Bay Cap). Total removals by area are calculated at the end of the fishing season. At-sea catches from the CDFRs are summed by vessel, and compared to total vessel unloads from company catch records. Individual at-sea sets are then multiplied by an adjustment factor (company records/ at-sea estimates). Adjusted catches by set are converted to metric tons, and accumulated by fishing area. Catch totals are reported by ocean fishing areas (New Jersey, Delaware, and Maryland in the EEZ, Virginia and North Carolina), while catches inside and outside Chesapeake Bay are delineated by the Chesapeake Bay Bridge Tunnel.

Statement of the Problem: The current reporting structure and inconsistencies between states have led to uncertainties in the landings history for Atlantic menhaden.

There are many electronic based reporting options that could be used to significantly improve reporting with only modest burden of the fishermen and/or dealers.

Public Comment Questions: How should the landings reporting system be improved to provide more timely and comprehensive catch information? Should both dealers and fishermen be required to report? Should fishermen be required to report data to help support stock assessments (area fished, effort, etc.)? What electronic reporting options should be considered: Vessel Monitoring Systems (VMS), Interactive Voice Reporting (IVR), web-based reporting, or reporting through the Standard Atlantic Fisheries Information System (SAFIS)? Should all state dealers be required to report weekly to be consistent with federal reporting requirements? How should the reported data elements be standardized (e.g., landings, gears used, area fished)?

ISSUE 3: Recreational Fisheries Management Tools

Background: Menhaden are important bait in many recreational fisheries; some recreational fishermen employ cast nets to capture menhaden or snag them with hook and line for use as bait, both dead and live. Recreational harvest is not well captured by MRIP because there is not a known identified direct harvest for menhaden. MRIP intercepts typically capture the landed fish from recreational trips as fishermen come to the dock or on the beach. Since menhaden caught by recreational fishermen are used as bait during their trip, they will not be a part of the harvest that is typically seen by the

surveyor completing the intercept.
Recreational harvest has varied over time with a high of 672.25 mt in 1992 and a low of zero metric tons in 2009. The average harvest since 1981 is 126 mt. Landings have averaged 95 mt over the last five years. (Figure 2).

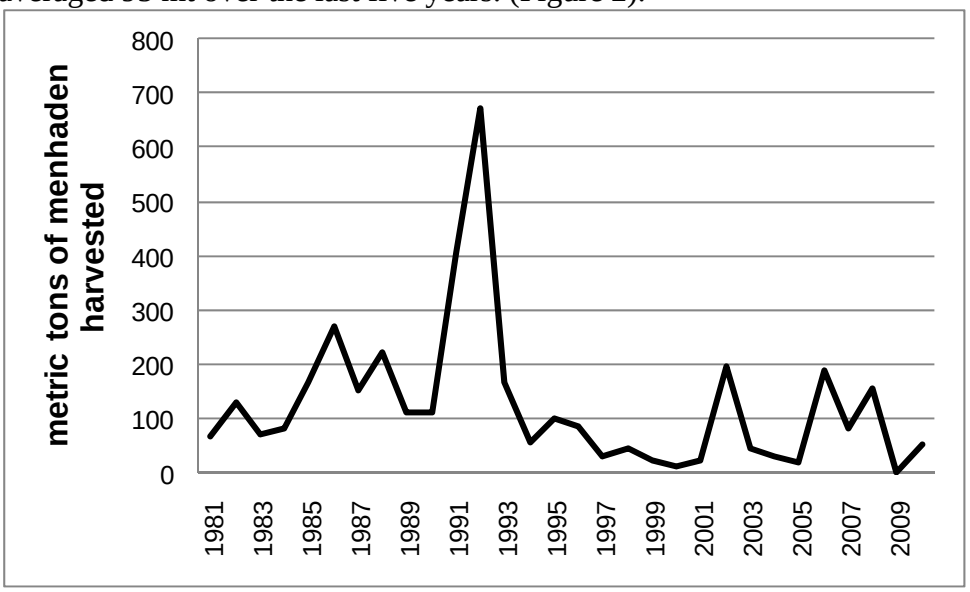


Figure 2. Atlantic Menhaden Recreational Harvest (A1+B1) from 1981-2010. Source: "Personal communication from the National Marine Fisheries Service, Fisheries Statistics Division**.** [June 30, 2011]

Statement of the Problem: Currently, no recreational fishery management measures have been implemented for Atlantic menhaden. Since a reduction in F is necessary to achieve the threshold and target, there is a need to explore other management options that may be used to regulate the recreational fishery. The amount of harvest reduction will be based on the results of the 2012 stock assessment update, which will revise the current F level, as was explained under issue 1.

Any combination of the management options below can be considered. It is recommended that alternative data collection procedures are explored under the MRIP since the current data collection program does not effectively capture recreational menhaden harvest.

Option 1: Status Quo:
Currently, no recreational fisheries management measures have been implemented.

Option 2: Size Limits
Under this option, minimum or maximum size limits would be considered to constrain the fishery to an F-based target or a quota.

Option 3: Bag Limits
Under this option, possession limits would be considered to constrain the fishery to an F-based target or a quota

Option 4: Season
Under this option, season closures would be considered to constrain the fishery to an F-based target or a quota

Option 5: Area Closures
Under this option, fishing would prohibited in specific areas. Area closures have the potential for creating protection for immature fish, spawning stock and the protection of ecosystem services.

Option 6: Gear Restrictions
Under this option, gear modifications wouldbe used to restrict the amount of catch (e.g., mesh size, net size).

Public Comment Questions: Should harvest be restrictions be implemented in the recreational fishery?

ISSUE 4: Commercial Fisheries Management Tools

Background: Atlantic menhaden have supported one of the largest commercial fisheries since colonial times. In 2004, there were only two reduction plants left operating on the Atlantic coast, Omega Protein in Reedville, Virginia and Beaufort Fisheries in Beaufort, North Carolina (Cheuvront 2004). Since February 2005, Omega Protein's plant in Reedville, Virginia is the only active menhaden reduction factory on the Atlantic coast. In addition to traditional menhaden use in the agricultural (both aquatic and land) and soluble industries, the oil has been refined to produce omega-3 fish oil products for human consumption, including food additives and capsules in recent years.

The 2010 Atlantic menhaden harvest for reduction purposes was 183,085 mt. This is up 27.3% from the 2009 landings of 143,800 mt, and up 19.9% from the previous 5-year (2005-2009) average of 152,747 mt (Figure 1). The average reduction harvest for the last ten years was 170,400 mt.

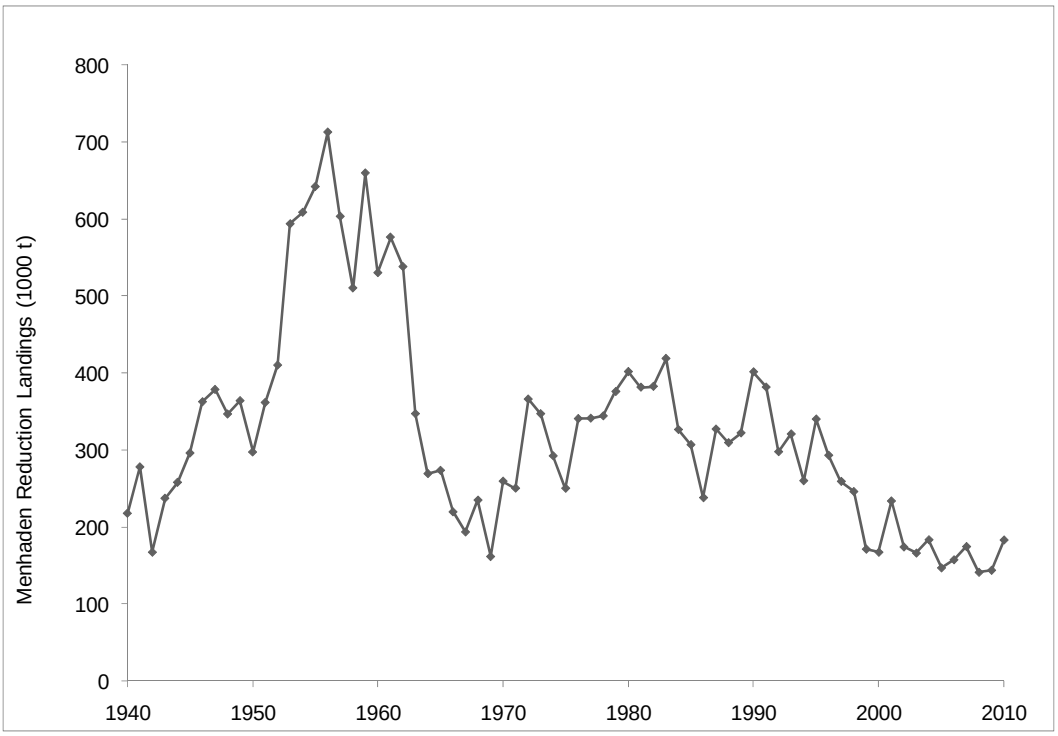


Figure 1. Landings from the reduction purse seine fishery (1940–2010) for Atlantic menhaden.

The harvest of menhaden as bait for a variety of commercial and recreational uses is associated with a number of directed fisheries using purse seines, pound and gill nets, and bycatch in fisheries targeting other species (using haul seines, pound nets and trawls). The dead bait is used in pots and for commercial hook and line fisheries, while live baits are important for recreational "slow trolling" in the hook and line fishery.

The bait fishery taking place in southern New England, namely in the area south of Cape Cod, Massachusetts, is comprised primarily of two purse seine vessels in the 90 foot range. These operations are based out of Fall River, Massachsuetts and prosecute the majority of their fishery while in southern New England in Narragansett Bay, Rhode Island. The fishery takes place from late spring into the summer, with occasional harvest taking place in early fall if southward migrating fish come in to Narragansett Bay in significant numbers. In recent years, with a few notable exceptions (i.e. 2008), the adult menhaden populations entering Narragansett Bay have been small, and the vessels have moved their operations south, mainly to New Jersey, during these years. Recently there have been additional purse seine operations that have attempted to prosecute fisheries in this same area. There are also a few small-scale cast-net and floating fish-trap operations but in total these operations have not contributed significantly to the New England bait harvest. The majority of the menhaden landed in southern New England is transported overland to ports in Maine and Massachusetts for use as bait in the lobster fishery.

North of Cape Cod, the largest volume of menhaden is landed in Gloucester, Massachusetts. However, in recent years, all of these fish have been caught off the coast of New Jersey via purse seine, transferred at-sea to a mid-water trawl vessel, and

brought to Gloucester. In some years, small purse seiners and gillnetters will harvest menhaden from local waters, notably from Boston Harbor and Salem Sound, yet these fish typically comprise less than three percent of the total New England menhaden landings. In Maine, there are two to three herring seiners who switch to harvesting menhaden for bait on an opportunistic basis even if outside of the Gulf of Maine (Kaelin, personal communication).

Smith and O'Bier (2011) report that the bait fishery in the Chesapeake Bay is a major contributor to the landings of menhaden bait. The number of vessels reduced from eight during the 1990s to four in 2009 due to state implemented management restrictions. Their sizes and original purposes varied. Four of the five vessels fishing the past few years are less than 100 feet in length. The fishing season extends from early May to late November.

Historically, the in-state bait fishery in North Carolina has operated on an even smaller scale than in New England. Very small operators, some associated with marinas, use cast nets in the late afternoon or early morning during the summer months. In addition to harvesting bait for crab fishing, one type of operation keeps the fish alive in holding tanks or nets for "slow trolling" for king mackerel, or bottom fishing for cobia. The operators anchor near the pathway of early morning recreational anglers in boats ranging from 17 to 30 feet in length as they leave their moorings to fish in the bays or inshore outside of inlets. Nearshore head and charter boats also purchase menhaden. The fish are sold by the dozen and are kept alive in live bait wells in the sportfishing boats. In the past, licensing on the part of commercial fishermen for bait required a special permit, but that has been changed. Licenses which allow the use of commercial gear for purposes other than purse seining can now be used for bait fishing.

Total reported annual landings of Atlantic menhaden for bait on the Atlantic coast averages about 36,000 mt for the period 1985-2010 (Appendix, Table 3). The reported bait landings in 2010 increased from the previous year to 44,000 mt. The Chesapeake Bay region has been the largest harvester of menhaden bait since the 90s, with the Mid-Atlantic only exceeding the bay harvest in 1992, 1997 and 2010. In 2010, the Chesapeake Bay harvest declined to 17,880 mt. The Mid-Atlantic bait harvest increased in 1992 and then decreased in 2003–2006. The Mid-Atlantic harvest increased to the record value of 23,065 metric tons in 2010. The New England bait harvest was less than 1,000 mt from the mid-90s to 2004. In 2005 the harvest began to increase and reached approximately 8,000 mt in 2007 and has since declined to 2,320 mt in 2010. The South Atlantic harvest has been less than 1,000 mt for the last nine years.

Statement of the Problem: Currently, the only commercial fishery management measure is a harvest cap on the Chesapeake Bay reduction fishery. Considering a reduction in F is necessary to achieve the threshold and target, there is a need to explore other management options that may be used to regulate the commercial fishery. The amount of harvest reduction will be based on the results of the 2012 stock assessment update, which will revise the current F level, as was explained under issue 1.

Any combination of the management options below can be considered. It is recommended that more timely and comprehensive data reporting be implemented with all of the following options.

Option 1: Status Quo
Under the current management program, the only harvest restrictions are listed in *Section 3.1* of Addendum IV to Amendment 1. *Section 3.1* sets an annual total allowable harvest for Chesapeake Bay reduction fishery of no more than 109,020 mt (the average landings from 2001-2005). This cap, which began in 2006, is in place through 2013. Over-harvest in any given year will be deducted from the next year's allowable harvest. In years when annual menhaden harvest in the Chesapeake Bay for reduction purposes is below the 109,020 mt cap, the underage amount shall be credited to the following year's allowable harvest. Under no circumstances can allowable harvest in any given year from 2011 through 2013 exceed 122,740 mt. Such credit can only be applied to the following calendar year's harvest cap and cannot be reserved for future years or spread over multiple years. Further, if no more than the underage amount in one year is credited to the next year's allowable harvest, the annual average harvest for 2011 through 2013 cannot exceed 109,020 mt.

Option 2: Trip Limits
Under this option, catch would be restricted using a maximum poundage allowance per trip or day. The Board would need to consider:

- If trip limits would be implemented by individual trip or by day because the possibility of multiple trips within a day exists or multi-day trips
- Implementation by fishery type
- Implementation of trip limits by gear type
- If trip limits would create discard mortality
- Designation of triggers based on harvest levels
- The spatial and temporal distribution of the stock to implement the most efficient trip limit

A benefit of trip limits, when used in conjunction with quotas, is that they provide some measure of controlling the catch rate. They also allow for the allocation of specific areas of the fishery based on performance. A negative aspect of trip limits is that they can create discard mortality with most fishing gears. They can be difficult to enforce and monitor due to the magnitude of the catch in the menhaden fishery.

Option 3: Gear Restrictions
Under this option, gear modifications would used to restrict the amount of catch (e.g., mesh size, seine size). The Board would need to consider:

- Gear types used that would be suitable to modify (e.g., gill nets, purse seines)
- Gear selectivity studies that justify the use of gear modifications; for example, mesh size can be implemented to minimize the harvest of immature fish.
- Realized costs by fishery to modify current gears
- Area or season closure by gear
- Designation of allowable gears, could be for directed or bycatch purpose

A benefit of gear restrictions is that they are enforceable measures by gear type. Significant amount of research would need to be done before gear restrictions could be implemented.

Option 4: Season Closures
Under this option, the season length (fishing days) would be restricted to certain time periods. The Board would need to consider:

- Closures by fishery
- The temporal distribution of the stock to implement the most effective season closures
- Fishing prohibited on specific days of the week (days out)
- Removal of passive gear types during closures
- Recoupment of harvest during open season

A benefit of season closures is that they are easily enforceable. A negative aspect is that they can create menhaden bycatch and regulatory discards of menhaden in directed fisheries for other species.

Option 5: Area Closures
Under this option, fishing would be prohibited in specific areas. The Board would need to consider:

- The spatial distribution of the stock to implement the most effective area closures (e.g., consideration of nursery areas)
- Recoupment of harvest in open areas
- Enforcement of areas closed

Area closures have the potential for creating protection for immature fish, spawning stock and the protection of ecosystem services, meaning the benefits that menhaden provide to ecosystem functions such as a food source for other species. A negative aspect is that they can create discard mortality of menhaden bycatch in directed fisheries for other species.

Option 6: Quotas
Under this option a limit is set for the amount of fish allowed to be caught by year or season. The Board would need to consider,

- TAC
- Allocation
    a) By fishery - guidance on how to set allocation (e.g. historical reference years)
    b) By state or region - guidance on how to set
    c) By state/federal waters
    d) By gear - guidance on how to set
    e) Transferability among entities allocated quota
    f) Consider overage and underage of quota including payback of overages and rollover of underages

- Catch shares, ITQ, IFQ
    a) Allocation formula for ITQ, catch share, IFQ (i.e. historical catch, vessel size based, combination of these two, etc)
- Monitoring requirements
- Bycatch allowance

Quotas are the most direct method to manage towards an F target. When used alone, in its simplest form, a quota has potential to create a derby fishery. A negative aspect is that and they can create discard mortality of menhaden bycatch in directed fisheries for other species after the quota is met. Additional monitoring requirements would be needed.

Option 7: Effort Controls

- Days at sea
    a) Board would need to consider the number of days fished, vessel size, fleet size
    b) By fishery, gear type, vessel type, state
    c) Will require historical estimates of catch rates. If VMS is required, monitoring becomes expensive (especially for smaller vessels).
- Vessel restrictions (upgrades, size, capacity)
    a) Board will need to consider vessel characteristics to define effort.

Option 8: Limited Entry

Under this option, a limited number of participants would be permitted to fish for Atlantic menhaden. The Board would need to consider,

- Control Dates
- Entrance criteria (e.g., based on participation, demonstrated dependence on the fishery)
- Permitting system by state

Limited entry would give a fixed number of entrants and gear types for the fishery thus creating a known universe of participants. When establishing a baseline of entrants, it can be difficult to maintain fairness.

Public Comment Questions: Should different sectors (bait and reduction) have different management measures? What other measures should be implemented to establish a more predictable fishery?

Issue 5. De Minimis Requirements

Background: Under the *de minimis* provisions of the ISFMP Charter, a state may be granted *de minimis* status (exempting it from certain, specified requirements by the Board) if, under existing conditions of the stock and scope of the fishery, conservation and enforcement actions taken by the state would be expected to contribute insignificantly to a required coastwide conservation program (ASMFC 2000). *De minimis* status could exempt a state from certain commercial or recreational measures, or monitoring requirements of a FMP.

Statement of the Problem: Amendment 1specifies that a state may be granted *de minimis* status if the Management Board determines that action by the state with respect to a particular management measure would not contribute significantly to the overall management program. The Amendment does not define *de minimis* criteria for menhaden. In general, other Commission FMPs use a one or two percent landings limit compared to coastwide total landings (or commercial and recreational landings separately).The Board may consider just commercial provisions for the commercial bait and commercial reduction fishery separately due to the magnitude of the landings in the reduction fishery relative to the coastwide harvest.

Public Comment Questions? Should the Board consider *de minimis* criteria and should the criteria be specific to the commercial bait, commercial reduction and recreational fishery?

BACKGROUND INFORMATION ON THE MANAGEMENT AND STOCK STATUS OF ATLANTIC MENHADEN

Summary of Fishery Management

The Commission has coordinated interstate management of Atlantic menhaden (*Brevoortia tyrannus)* in state waters (0-3 miles) since 1981. Management authority in the exclusive economic zone (EEZ, 3-200 miles from shore) lies with NOAA Fisheries.

In 1988, the Commission initiated a revision to the FMP. The Plan revision included a suite of objectives to improve data collection and promote awareness of the fishery and its research needs, including six management triggers used to annually evaluate the menhaden stock and fishery. In 2001, Amendment 1 was passed, providing specific biological, social, economic, ecological, and management objectives for the fishery.

Addendum I (2004) addressed biological reference points for menhaden, the frequency of stock assessments, and updating the habitat section currently in Amendment 1.

Addendum II instituted a harvest cap on Atlantic menhaden by the reduction fishery in Chesapeake Bay. This cap was established for the fishing seasons in 2006 through 2010. The Atlantic Menhaden Technical Committee determined the following research priorities to examine the possibility of localized depletion of Atlantic menhaden in the Chesapeake Bay: determine menhaden abundance in Chesapeake Bay; determine estimates of removal of menhaden by predators; exchange of menhaden between bay and coastal systems; and larval Studies (determining recruitment to the Bay).

Addendum III was initiated in response to a proposal submitted by the Commonwealth of Virginia that essentially mirrors the intent and provisions of Addendum II. It placed a five-year annual cap on reduction fishery landings in Chesapeake Bay. The cap, based on the mean landings from 2001 – 2005, was in place from 2006 through 2010. Addendum III also allowed a harvest underage in one year to be added to the next year's quota. The maximum cap in a given year is 122,740 metric tons. Though not required by the plan, other states have implemented more conservation management measures in their waters. Addendum IV (2009) extends the Chesapeake Bay harvest cap three additional years (2011-2013) at the same cap levels as established in Addendum III.

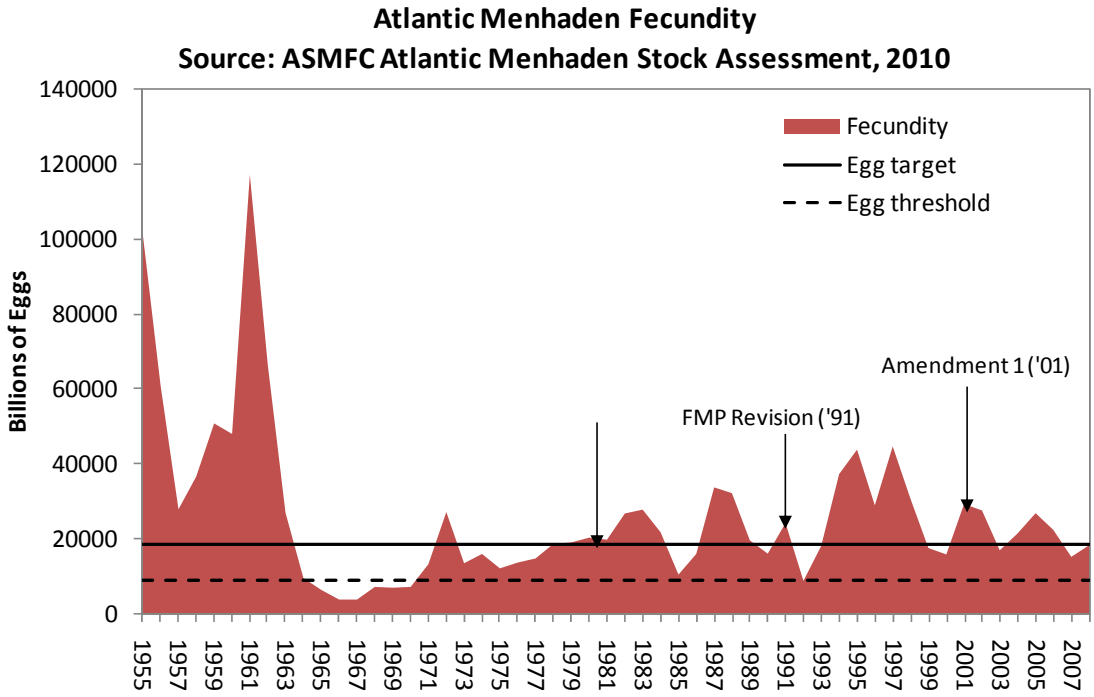
Addendum V, approved in November 2011, establishes a new F threshold and target rate (based on MSP) with the goal of increasing abundance, spawning stock biomass, and menhaden availability as a forage species.

Summary of Stock Status

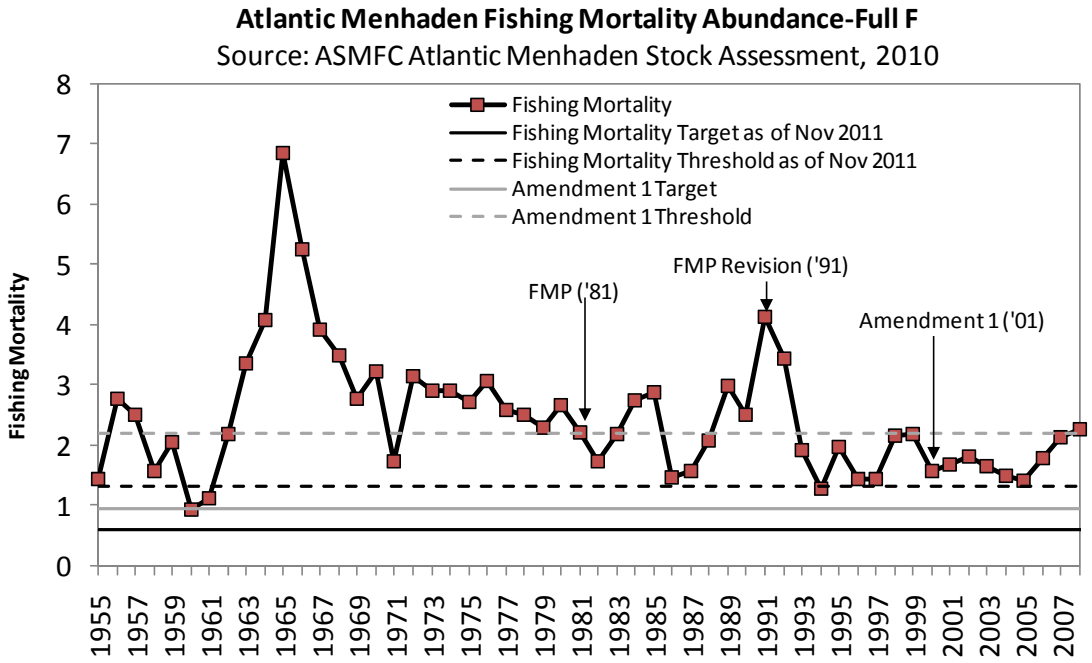
The latest peer reviewed stock assessment is the 2010 benchmark assessment. The assessment used the Beaufort Assessment Model a statistical catch-at-age model that estimates population size at age and recruitment in 1955 and then projects the population forward in time to the terminal year of the assessment (in the case of the 2010, the terminal year was 2008). The model estimates trends in population dynamics, including abundance at age, recruitment, spawning stock biomass, egg production, and fishing mortality rates.

Model results indicate the population has undergone several periods of both high and low abundance over the time series. Abundance has declined steadily since the peak observed in the early 1980s and recruitment (age 0 fish) has been relatively low. Population fecundity (measured as number of maturing ova, or eggs) was high in the late 1950s and early 1960s, low in the late 1960s, and generally increasing since that time. The biological reference point that determines the fecundity target for Atlantic menhaden is defined as the mature egg production expected when the population is being fished at the threshold fishing mortality rate.

Population fecundity in 2008 was estimated to be 18.449 trillion eggs or 99% of target (and 198% of the threshold). This means that the spawning stock in 2008 appears to be adequate to produce the target number of eggs, and thus the population is deemed not overfished. However, the number of young fish in the population has been consistently low in recent decades, indicating that high egg production may not be translating into high survival of young menhaden. Given this finding, the Peer Review Panel recommended examination of alternative reference points to provide more protection to the spawning stock biomass. The Board followed this advice by approving new fishing mortality reference points in November 2011.



F was highly variable throughout the entire time series, with a decline in F from the mid-1960s to the 1980s. Since the mid-1980s F have varied between some of the highest and lowest values in the entire time series. The model suggests a high degree of variability, but in general the reduction fishery has experienced declining fishing mortality rates since the mid-1960s, while the bait fishery has experienced increasing fishing mortality rates since the 1980s.



In 2008, the population was not overfished but overfishing was occurring, relative to the newly adopted biological reference points. The overfishing threshold for menhaden is now $F_{15\%MSP}$= 1.32. A 15% MSP would equate to a fishing mortality rate threshold required to maintain approximately 15% of the spawning potential of an unfished stock. For reference, an unfished stock is equal to 100% MSP. F on all ages in 2008 (the latest year in the assessment) is estimated at 2.28, which was above the new target and threshold, hence overfishing is occurring. Relative to the F threshold adopted in November 2011, overfishing was occurring in most years. F reference points were first implemented by the Commission in 2001, when F threshold was set at 2.2. Given this previous definition, overfishing had occurred in 32 of the last 54 years but was not occurring during the previous nine years, 1999-2007.

It is important to note that there is not a well defined stock recruitment relationship, and that lower landing levels do not necessarily increase spawning stock biomass. However, there is a possibility that the stock may be able to take greater advantage of favorable environmental conditions if a larger percentage of spawning adults remain in the population.

Social and Economic Impacts

A reduction in the total allowable catch, no matter the form would directly impact the Chesapeake reduction fishery employment profile. Potential reductions in workforce are estimated to be proportional to reductions in harvest.

Commercial fishermen who depend on menhaden harvesting to sell as bait would be impacted to the extent they could not have a suitable alternative. It is difficult to provide any direct and indirect impacts in the sector at this time. New England operators indicate that the most dramatic impact on their fishing operations would be inside, or bay, closures.

Data is currently lacking to accurately assess the impacts of specific measures. The Commission's Committee on Economics and Social Sciences (CESS) is working to compile and review all available data to assess the social and economic impacts of any management measures considered in Amendment 2. **Please submit any data that is relevant to this issue to the Commission for review by the CESS.**

The demand for menhaden as bait in other fisheries is directly dependent upon changes in the management programs of those other fisheries. For example in the American lobster fishery, the Southern New England (SNE) fishery is considering reduced lobster trap capacity to scale the fishery to the size of the SNE resource. If less lobster traps were fished, then the demand for menhaden as bait will most likely be reduced. Additionally, the demand of menhaden as bait will depend on the availability of other bait species. For example, the decreased availability of other forage fishes (e.g., Atlantic herring) may cause an increased demand for menhaden depending on individual stock sizes and the management of those fisheries.

Appendix 1.

Table 1. Summary of State Regulations

State	Met Reporting Requirement of Section 4.2.5.1	Summary of Regulations
ME	Yes	Commercial license and endorsement if gillnetting. Unlawful to fish more than 2000 feet of bait gillnet in territorial waters. Bait gillnet shall have less than 3.5 inches diamond or square stretch mesh throughout the entire net. Area pilot program with daily catch limits and vessel restrictions.
NH	Yes	State law prohibits the use of mobile gear in state waters.
MA	Yes	No specific menhaden regulations. Purse seining prohibited in some areas (mostly nearshore), and no purse seines larger than 100 fathoms may be used.
RI	Yes	Menhaden harvest by purse seine for reduction (fish meal) purposes is outlawed. No purse seines larger than 100 fathoms in length or 15 fathoms in depth may be used. Commercial gear and vessels need to be inspected and may not have a useable fish storage capacity greater than that that can hold 120,000 pounds of menhaden. Daily catch limit of 120,000 pounds per vessel when standing stock estimate reaches 3,000,000 pounds. When 50% of estimated weekly standing stock is harvested, or estimated weekly standing stock drops below a 1,500,000 pound threshold, the fishery closes until further notice. Permanent closures in specific areas.
CT	Yes	Purse seines prohibited in state waters. Menhaden can be caught by other gear and sold as bait. Personal gillnet restricted to mesh greater than 3 inches and net shall not exceed 60 feet in length.
NY	Yes	Purse seines limited to certain times/areas. Purse seine season commences on the Monday following the fourth day of July and ending on the third Friday in October.
NJ	Yes	Prohibited purse seining for reduction purposes in state waters. Mandatory reporting for purse seine (bait) fishery. Bait fishery subject to gear restrictions and closed seasons. In 2011, implemented a limited entry program for purse seine fishery. To purchase a license applicant must have purchased a license at least one year during 2002-2009 and a license in 2010. Length of vessel under permit is allowed to increase by 10% (not to exceed 90 feet) and up to 20% greater horsepower.
DE	Yes	Purse-seine fishery prohibited since 1992. No specific regulation of gillnetting for menhaden.

MD	Yes	Purse-seine fishing prohibited; menhaden harvested by pound net primarily.
PRFC	Yes	All trawling and purse nets are prohibited. In 2011, Pound net fishery which is limited entry must use at least six PRFC approved fish cull panels properly installed in each pound net to help release undersized fish.
VA	Yes	Unlawful to use any net with stretch mesh size of less than 1 3/4 inches.
NC	Yes	Combination of gear restrictions and seasonal and area closures (e.g., no purse seine fishing within 3 miles of coast of Brunswick Co. from May – October).
SC	Yes	Purse seines prohibited in state waters; requests *de minimis* status.
GA	Yes	State waters closed to purse seine fishing; requests *de minimis* status.
FL	Yes	Purse seines prohibited in state waters; primarily a cast net fishery; requests *de minimis*.

Table 2. Summary of Reporting Requirements

State	**Summary of Reporting Requirements**
ME	Mandatory dealer reporting began in 2008: trip level reporting collecting pounds and gear type. Mandatory trip level harvester reporting began in 2011: trip level reporting collecting area fished, pounds, gear, and disposition. Both are reported monthly on the 10th day of the following month.
NH	Mandatory harvester reporting on a trip level through state logbook. Includes area fished, pounds, gear, and disposition. State dealers are not required to report menhaden but Federally permitted dealers are.
MA	Mandatory comprehensive trip-level reporting for all fishermen started in 2010. MA fishermen with federal permits report their landings to NMFS via their VTRs (weekly reporting schedule, due following the Tuesday by midnight). MA fishermen without federal permits report their landings to MA DMF (monthly reporting schedule, due 15th of the following month). Mandatory comprehensive transaction-level reporting for all dealers began in 2005. All dealers purchasing directly from fishermen, whether federally permitted or not, are required to report a week's transactions by the following Tuesday at midnight
RI	Mandatory dealer reporting through SAFIS. Mandatory logbook requirement for harvesters including area fished, gear, weight. Call in requirement for commercial fishing in Narragansett Bay which is in addition to the SAFIS reporting.
CT	Mandatory monthly harvester logbooks, and weekly and monthly dealer reports. These reports contain daily records of fishing and the disposition and dealer purchase activity including gear type and area fished. Logbooks are due on the 10th of the following month

NY	Mandatory VTR reporting for all commercial harvesters, reports are due monthly. Lobster bait permit holders can harvest menhaden and report pounds landed annually when they renew their lobster license. Mandatory weekly electronic dealer reporting including weight, price, area, dealer and harvester ID.
NJ	Mandatory trip level harvester reporting: area and pounds landed reported on a monthly basis. Reported monthly by the 10th of the following month. Require "no harvest" reports - if fishermen didn't harvest anything for a month, they must still submit a monthly report. No dealer reporting requirements.
DE	Mandatory harvester reporting: trip level reporting collects pounds of fish, area fished, gear used, fishing time, trip length reported monthly
MD	Mandatory harvester reporting: trip level reporting collects pounds of fish, area fished, gear used, trip date, port landed; reported monthly
PRFC	Mandatory harvester trip level for commercial fishing reported weekly.
VA	Implemented CDFR reporting requirement for bait seine/snapper rigs in 2002. The reduction fishery landings in VA are reported via daily catch records and CDFRs to the NMFS. All harvest reports are daily trip reports due monthly on the 5th of the following month.
NC	Mandatory commercial fishery reporting (trip ticket). Trip tickets for a given month are submitted to the NCDMF by the 10th of the following month. NC requires all individuals or businesses that buy seafood in the state must have a seafood dealer's license and must buy only from licensed fishermen. These dealers are mandated to report all fish and shellfish landings per trip to the NCDMF. Each trip ticket includes the amount in units/pounds of each species landed, type of gear(s) fished, water body from which the majority of the catch was harvested, start date of the trip, date of landing, number of crew, and license numbers.
SC	Mandatory trip level dealer reporting. But bait dealers are not required to report. Prior to implementation of the ACCSP trip level data reporting (September 2003), licensed wholesale dealers were required to submit monthly summaries of their seafood harvest business transactions. The only data elements we collected were species, quantity, unit price, area caught and gear used.
GA	Mandatory commercial fishery reporting trip ticket.
FL	Mandatory commercial fishery reporting (trip-ticket) began in 1984. Dealer based trip level reporting that collects both harvester and dealer ID, gear type, soak time, pounds, area fished, value. Reports are submitted monthly on the 10th day of the following month.

Table 3. Menhaden Bait Landings by State in Pounds, 1981 - 2011

	ME	NH	MA	RI	CT	NY	NJ	DE	MD	PRFC	VA	NC	SC	GA	FL
1981					151,349	533,200			5,349,055	20,371,865	31,171,512		8,487		
1982					171,086	394,300	1,637,357	58,300	5,190,816	17,989,434	22,019,986		0		413,299
1983					129,300	216,300	1,581,454	41,000	3,534,724	20,820,945	24,482,553		34,000		1,150,426
1984					186,900	692,500	2,242,112	208,000	2,002,405	13,121,597	14,527,306	791,000	0		1,036,968
1985	1,891,383		3,039,625	8,388,046	234,800	901,800	2,879,766	176,135	2,157,406	16,768,889	17,320,505	2,925,363			1,091,685
1986	16,250,100		3,411,000	10,389,187	254,400	365,885	2,453,593	20,081	2,262,891	10,971,973	9,885,311	3,566,771	9,952		872,984
1987	14,361,840	4099	1,215,175	13,609,224	94,900	178,337	2,563,163	22,034	2,367,378	13,120,495	14,318,627	4,031,181	3,934		1,309,485
1988	19,685,728	5147	8,047,320	15,583,437	175,200	475,198	1,984,045	127,713	2,242,480	13,231,368	11,976,740	4,376,073	500		1,017,957
1989	380,619	5424	1,459,402	19,033,173	148,500	292,250	2,854,361	104,382	3,778,616	8,334,174	24,310,430	5,228,178	0		1,372,480
1990	5,744,597	6044	1,709,605	17,102,650	96,706	400,510	9,041,459	167,119	1,662,275	4,523,776	18,224,186	4,761,649	0		2,636,486
1991	13,893,963	11747	12,798,310	5,090,375	96,300	638,750	16,597,402	278,774	3,126,345	5,376,264	14,487,238	4,308,294	0		2,495,968
1992	10,980,056	10225	13,499,450	2,849,359	91,200	445,100	27,470,906	105,718	1,777,088	5,061,565	16,233,980	3,408,522			2,746,484
1993	19,101,041	3710	1,211,569	5,146,280	195,827	958,877	28,296,741	164,052	1,806,638	7,884,001	7,180,045	1,577,284	0		2,584,766
1994	0	1027	351,251	533,800	60,128	899,416	38,176,201	78,672	2,575,135	6,680,937	5,664,923	5,605,871	0		1,387,012
1995	0	1590	2,910,613	5,873,315	217,639	1,087,978	36,572,507	101,388	5,401,700	7,002,818	6,154,703	2,792,186	0		660,272
1996	0	73	8,500		76,251	11,135	35,516,726	100,063	3,906,808	5,111,423	5,398,888	1,002,013	0		272,386
1997	0	0	238,500		72,329	553,953	38,118,579	55,733	3,457,237	5,757,370	5,281,783	3,446,667			408,492
1998	1,323	9	121,200		338,817	29,334	33,287,641	58,048	2,780,208	3,980,738	42,878,664	3,193,385	0		301,890
1999	1,716	0	292,800		30,298	11,511	27,753,567	78,466	4,392,802	4,860,883	39,235,562	2,651,470	0		281,863
2000	1,453	0	72,600		14,423	4,646	31,266,780	47,980	3,935,307	5,023,374	34,444,488	1,887,202	0		254,252
2001	190	0	144,600		38,865	296,116	26,375,573	53,257	3,970,243	3,329,035	42,822,552	2,868,578	0		156,504
2002	70,002	0	301,500		1,138,788	6,480	24,716,412	80,291	3,577,717	3,122,050	45,678,338	2,456,686	0		55,304
2003	0	0	218,255		46,515	436,069	17,080,463	42,593	3,162,257	2,438,790	49,522,762	1,710,212	0		35,810
2004	0		0	39,232	33,210	290,235	20,678,813	75,426	5,369,592	5,411,043	45,287,321	1,092,453	0		20,870
2005	30,311	273	2,177,724	14,086	30,636	216,832	17,574,826	121,351	10,441,961	4,759,545	48,797,352	1,502,455	0		36,298
2006	37,047		2,524,255	15,524	866,235	0	21,290,309	111,308	4,269,562	3,413,517	24,369,322	962,648	0		157,117
2007	134,687	484	5,543,805	8,948	90,254	0	37,202,485	81,546	9,060,731	5,036,906	35,587,999	1,134,167	0		71,247
2008	4,156,005	408	13,370,200	268,788	104,881	234,700	38,210,688	72,970	5,659,101	4,820,645	36,627,423	645,231	0		44,327
2009	452,355	33	6,719,048		173,252	226,980	32,787,777	69,476	5,667,415	3,191,905	33,614,601	2,124,733	0		52,800
2010	46,162	390	4,973,944	77,089	44,967	300,120	50,497,293	51,933	6,885,330	2,790,728	32,729,719	1,299,130	0	0	60,307
2011*	NA	0	118,162	81,300	7,696	58,080	74,324,485	64,566	6,829,860	2,901,197	NA	3,514,829	0		139,980

*2011 harvest is preliminary

[redacted] cells can not be reported because the data are confidential

NA: Not available

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Atlantic States Marine Fisheries Commission

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MEMORANDUM

April 16, 2012

To: Atlantic Menhaden Management Board
From: Mike Waine, ISFMP Coordinator
RE: Public Comment on Public Information Document for Atlantic Menhaden ISFMP

The following pages represent a summary of all comment received by ASMFC as of April 12, 2012 on the Public Information Document for Amendment 2 to the Atlantic Menhaden FMP. Comments received after April 12 will be provided to the Board in the supplemental material. The public comment period is open until April 20, 2012.

A total of 11,116 comments have been received to this point. Of those comments 46 were personalized individual comment, 2 were from organizations, and 11,068 comments were from form letters (7 different letters).

12 Public hearings were held in 12 states. Approximately 185 individuals were estimated to have attended all of the hearings combined.

The following tables are provided to give the management board an overview of the support for specific options/issues contained in the document. Support for an option was only indicated in the table if the commenter specifically stated preference for one or more of the options in the document.

PID to Amendmen 2 to the Atlantic Menhaden FMP								
	Timeline to Achieve Target				Achieving Target		Reporting	De minimis
	Option 1: 1 year	Option 2: 3 year	Option 3: 5 year	Option 4: 10 year	>= 0.50 probability	>= 0.75 probability	Better reporting	Add to FMP
Individual / organization letters	3	14	2	1	2	2	6	3
Form Letters		11023		57	10590	19	10694	10590
Hearings								
ME								
NH		1	1			1	2	2
MA	3	3			2		4	1
RI		3				4	3	1
NY		2	2			2	2	2
NJ		3				1	4	3
DE								1
MD		3	1	1		1	2	1
VA		3	1	1		1	2	1
NC		4	1			1		
SC								1
TOTAL	6	11059	8	60	10594	32	10719	10606

PID to Amendment 2 to the Atlantic Menhaden FMP													
	Recreational Management Measures					Commercial Management Measures							
	Option 1: Status Quo	Option 2: Size Limit	Option 3: Bag Limits	Option 4: Season	Option 5: Gear Restrict	Option 1: Status Quo	Option 2: Trip Limits	Option 3: Gear Restrictions	Option 4: Season Closure	Option 5: Area Closures	Option 6: Quotas	Option 7: Effort Controls	Option 8: Limited Entry
Individual/ organization Letters	4	2	2	2	3		4	6	4	4	7	4	
Form Letters	10637										11004		
Hearings													
ME						1	13	1	12		12	1	
NH	1						1	1	1	1	1	1	
MA	2									1	4		
RI	2		4				3	4	3	5	5	1	
NY	2		2				2	2	2	2	2	2	
NJ	6					1	1	1	1	2	5	2	
DE													
MD	3						2	2	2	2	3	2	
VA	2						1	1	1	1	2	1	
NC	2						1	1	1	1	1	1	
SC	1												
TOTAL	10662	2	8	2	3	2	28	19	27	19	11046	15	0

Additional commonalities from all the written comments included:

- Implement complimentary management measures in federal waters (EEZ)
- Consider the impacts the reductions will have on local communities
- Industry sees plenty of menhaden, and they question the science
- Conserve menhaden
- Timeline to achieve the threshold and target should be immediate
- Manage the reduction and bait fisheries separately
- Take reductions slowly
- Remove the 1 and 10 year time frame from achieving the target issue
- Protect menhaden for their ecological purposes
- The new adult survey conducted in New England should be included in the stock assessment update
- Allocation should be based on history by state and regulated by state
- Moratorium should be considered
- Consider discard mortality when using trip limits
- Penalties for violations should be large enough to discourage violators
- Days at sea should not be considered
- Reduce the reduction fishery only
- Perform a full economic and social impact analysis including other fisheries that rely on menhaden for bait
- Environment drives the stock change not fishing
- Fishing is much more expensive now than it was historically
- Ecological depletion of menhaden is the main issue
- Ecological based reference points are needed
- Implement management measures to achieve the target in 3 years

The following pages contain public hearing summaries for all states (pages 5 – 82), personalized individual letters (pages 83 – 147), letters sent by organizations (148 – 149), and all form letters with total petitioner count (pages 150 – 158) through April 12, 2012.

Maine Public Hearing
April 4, 2012
9 attendees (2 commissioners, 1 staff)

Brian Tarbox AP member read written comments into the record [see written comments ME#1]. He noted comments were for management in the state of Maine.

Vince Balzano commercial fishermen Portland. Wants status quo of the fishery, let them keep fishing. Skipping to option 6 he does not favor state by state quotas or an allocation of the resource to IFQ/ITQ He wants to keep trip limit pilot project going in Maine. Therefore he supports trip limits for ME not necessarily the entire coast.
He thinks gear restrictions are effort controls. If reductions are needed in the state of Maine, he wants ME to develop effort controls to do so. Does not support season closures, area closures, or limited entry.

Jennie Bichrest AP member. Advocated for limiting harvest of small fish coast wide. Look into mesh size restrictions that limit the retention of small fish. Look into using area closures for ripe fish that are going to spawn.

Atlantic Menhaden PID for Amendment 2 for Public Comment

Atlantic States Marine Fisheries Commission
April 4, 2012
Maine

-- PLEASE PRINT CLEARLY --

Name	Company/Organization	City, State
Jeanie Bichrest	Purse Line Bait	Topsham ME 04086
Steve Train	ME DMR	
	ME Lobsterman	Long Is ME
	ME Fisherman	
Kyle Molton	Rep Pingree's Office	Portland ME
		Harpswell
Brian Tarbox	SMCC	North Yarmouth
Matt Cieri	ME DMR	in Boothbay Harbor

Menhaden Meeting Wiscasset March 29 2012

A group of industry members , numbering 12, met on March 29 2012 in Wiscasset at 6 PM to discuss the public hearing document For Amendment 2 to the Interstate Fisheries Management Plan For Atlantic Menhaden.The group represented mostly commercial fisherman and bait dealers with one representative from the recreational fisheries attending. We mostly focused on the commercial options of the plan and the following was approved by those present.

The meeting opened with Brian Tarbox, an advisor to the Menhaden Committee, talking about the change to the reference points etc. Brian is also a biology professor at a local college and a part time commercial fisherman. After explaining the changes to the reference points to the group we moved on to questions and comments from Doug Jowett the rep from the recreational fishermen. As far as Mr. Jowett was concerned they are there to support us as long as some menhaden are left in the water for the recreational fishermen to not only catch for bait but to feed and attract, striped bass and bluefish to the area.

The group agreed that the small amount that they catch when the menhaden are in the area was negligible and did not need to be regulated further. We moved on to the commercial aspects of the plan. Mr. Jowett also suggested that we might form a group, with a name to more efficiently represent our group and its opinions. We will consider the matter and discuss at a later date.

Moving forward on the document we went to page 13 and discussed each of the options as they appeared in the document with the following agreed upon by all those present.

Option 1: Status Quo. No one supports.

Option 2: The group strongly supported Maine's Menhaden pilot program, which caps catch at 250,000 pounds per day, per carry vessel. Further, to address discards recognize, that in the seine fishery catch vessels tend to "share" their catch overages with other vessels. The menhaden fishery is also supported by spotter planes that can fairly accurately set a vessel on the needed amount. If an overage occurs without another vessel in the area, an overage of no more than 10 % per vessel can be applied to the next day's catch.

The group also strongly supports daily reporting via IVR call in for monitoring of the catch.

Option 3: Gear restrictions. No one supports at this time.

Option 4: Season Closures: The group only supports this in conjunction with TAC's if implemented and would only do so when shutting down the fishery when reaching 80% of a given TAC,

Option 5: Area Closures. No support for area closures at tis time.

Option 6: A) The group strongly supports allocation by bait fishery and reduction fishery

B) Currently the group does not support allocation by region any further than current regional designations in the fishery for management purposes. ?

C) The group does not support this option of quotas by state and federal waters at this time.

D) The group would support a separate allocation for traps, weirs and gillnets and would propose a set aside for this fishery.

E) The group would first like to have the entities in this option identified before commenting and generally are uncomfortable with this option and would probably not support it.

F) The group would only support this option if rollovers and paybacks etc. were allowed for a year not consecutively for a cumulative effect.

G) The group strongly opposes this option because of our limited history for catch share or ITQ setting purposes.

H) The group strongly agrees that we need better monitoring and would strongly support daily reporting requirements

I) the group did not comment on bycatch allowances

Option 7: We felt this option for effort controls was redundant and addressed previously.

Option 8: The group felt at this time the states should be left to decide on a state by state basis whether they wanted to limit their fisheries participants. Therefore we would not support at this time.

This group might further add as a comment, that there is really not a lot of science available or catch data for this fishery throughout its range. Actions such as are being taken in this Amendment prior to a real stock assessment, better catch info seem very premature. It is very difficult to imagine how a fishery should be prosecuted when you have no idea how much fish you are truly going to be able to catch throughout the range, especially when thinking of how other environmental factors affect the stocks.

New Hampshire Public Hearing
April 3, 2012
12 attendees (3 commissioners).

Issue 1: Timeline to achieve target.
No comments

Issue 2: Catch reporting
Reporting should be universal consistently among all states and the people that are going to be required to report.

Issue 3: Recreational fishery management measures
No comments

Issue 4: Commercial fishery management measures
If trip limits are used, minimize discard mortality.

Issue 5: De Minimis
NH's landings are so low that De Minimis status should be granted for NH. Several people feel that NH should be de minimis and that 1% of total coastwide landings as a cutoff seems to be a good option if it is used in other fisheries. De minimis status should exempt NH from as much of the regulatory program for menhaden as possible moving forward. NH is already prohibiting mobile gears in state waters.

Don Swanson read written document into the record [See written comment NH#1]. Representing CCA of New Hampshire.

Atlantic Menhaden PID for Amendment 2 for Public Comment

Atlantic States Marine Fisheries Commission
April 3, 2012
New Hampshire

-- PLEASE PRINT CLEARLY --

Name	Company/Organization	City, State
Don Swanson	CCANH	Derry, NH
Ritchie White	Gov. Apt. NH	Portsmouth NH
Peter Wheeler	CCANH	Hampton NH
Peter Tilton	Advisory Committee	Pelham NH (No Comment)
Gene Maroni	Advisory Comm	Newmarket
Dennis Abbott	NH Legis Prof	Rollinsford, NH.
Erik Anderson	NHCFA -	
Jeff Marston	NH F+G	
Doug Mackavich		

NH #1

Coastal Conservation Association
Positions on Menhaden Management
Amendment II to the Atlantic Menhaden
Fishery Management Plan

"How would you like the Atlantic menhaden fisheries to look in the future?"

CCA POSITON: Restoring the menhaden resource to historic levels of abundance must be the primary management objective of the Amendment. Fisheries that can operate without depleting the overall abundance of the menhaden resource or fishing on immature fish, and which avoid concentrating effort in relatively small, ecologically important areas such as the Chesapeake Bay, must be governed by adequate monitoring and enforcement measure. Fisheries which cannot meet such basic criteria should be prohibited.

TIMELINE TO ACHIEVE THE F TARGET

Should the target F be achieved over one, three, five, ten years, or some other time frame?

CCA POSITION: We believe the one year and ten year options for reaching the target fishing mortality rate provided in the PID are both unreasonable, and should not be considered. The 3 and 5 year options should remain in the draft Addendum.

The target fishing mortality level is critical since, if fishing can be limited to that level, there is no likelihood that the menhaden resource will become depleted.

Does a 0.50 to 0.75 probability of achieving the threshold/target provide an appropriate level of risk?

CCA POSITION: We believe a 0.75 probability of achieving the threshold/target is appropriate. A 0.50 probability creates a situation where failure is as likely as success, and so should be removed from consideration.

If the F is reduced over a number of years, how much of a reduction should occur each year, or should the reduction be constant across all years?

CCA POSITION: Once the Threshold fishing mortality rate is reached in 2013 and overfishing ended, we would support management measures that reach the Target fishing mortality rate in 3 years with equal reductions in each of those years.

TIMELY AND COMPREHENSIVE CATCH REPORTING

How should the reported data elements be standardized (e.g., landings, gears used, area fished)?

CCA POSITION: We have no expertise in the details of the commercial landings reporting systems and methods. As a general principle, we believe the menhaden fishery, both bait and reduction, should be treated like any other quota monitored fishery and have a data reporting system that is comprehensive, transparent and enforceable.

RECREATIONAL FISHERY MANAGEMENT TOOLS

Public Comment Questions: Should harvest restrictions as in Option 1: Through Option 6: be implemented in the recreational fishery?

CCA POSITION: While the magnitude of the recreational harvest of menhaden is currently unknown, current estimates place it at substantially less than 1% of the commercial take. Using the ASMFC language below, we believe the entire recreational fishery could be declared de minimis:

....if, under existing conditions of the stock and scope of the fishery, conservation and enforcement actions taken by the state would be expected to contribute insignificantly to a required coastwide conservation program.

We believe recreational management measures for those that catch menhaden for personal use as bait are unnecessary.

The commercial take of menhaden for sale as bait in the recreational fishery should be governed by commercial management measures.

COMMERCIAL FISHERY MANAGEMENT TOOLS

Option 1: Status Quo

CCA POSITION: We do not support Status Quo management.

Option 2: Trip Limits

CCA POSITION: We do support keeping Trip Limits as an option in the suite of commercial fishing management measures.

Option 3: Gear Restrictions

CCA POSITION: We do support the keeping Gear Restrictions as an option in the suite of commercial fishing management measures.

Option 4: Season Closures

CCA POSITION: We do support keeping Season Closures as an option in the suite of commercial fishing management measures. For example, this measure could be used to move purse seines out of state waters in Virginia on the 3rd Friday in November to protect young menhaden as they leave estuaries and join the coastal stock, which was a standard management measure until 1987. Currently the area west of the Chesapeake Bay Bridge Tunnel is closed after this day and the rest of state waters are closed about 4 weeks later. This measure would reduce canflicts between the purse seine fishery and striped bass fishermen both commercial and recreational at a time between Thanksgiving and Christmas when Striped Bass are migrating from Northern areas and mixing with the Menhaden schools.

Option 5: Area Closures

CCA POSITION: We do support keeping Area Closures as an option in the suite of commercial fishing management measures, and view this as an especially important management measure. For example, it could be used to close shallow waters (less than 30 feet deep) to the use of purse seines, which would include most of the waters of the Rappahannock River. This measure will protect the juvenile menhaden and the critical nursery areas for many of the recreationally and commercially important estuarine species. The Rappahannock River is the only river on the east coast that still allows industrial fishing of menhaden.

Option 6: Quotas

CCA POSITION: We do support keeping Quotas as an option in the suite of commercial fishing management measures.

Option 7: Effort Controls

CCA POSITION: While we do support keeping some form of Effort Controls in the suite of management tools available to managers, we do not support the use of Days At Sea as an effort control measure.

Option 8: Limited Entry

CCA POSITION: We do not support the use of Limited Entry as an effort control measure and believe this option should be removed from the suite of management measures.

PUBLIC COMMENT QUESTIONS:

Should different sectors (bait and reduction) have different management measures?

CCA Position: We believe these two fisheries, which can be prosecuted in entirely different manners, should be managed differently. The reduction fishery is one entity that lands all their menhaden in one location, Reedville, VA. The bait fishery ranges from large ocean going trawlers and purse seine boats to small pound

net and gill net operations, which land their fish in many different locations, and sometimes not at all when menhaden are used directly from the catch gear as bait.

What other measures should be implemented to establish a more predictable fishery?

Issue 5. De Minimis Requirements Background: Under the *de minimis* provisions of the ISFMP Charter, a state may be granted *de minimis* status (exempting it from certain, specified requirements by the Board) if, under existing conditions of the stock and scope of the fishery, conservation and enforcement actions taken by the state would be expected to contribute insignificantly to a required coastwide conservation program (ASMFC 2000). *Deminimis* status could exempt a state from certain commercial or recreational measures, or monitoring requirements of a FMP.

Statement of the Problem: Amendment 1specifies that a state may be granted *de minimis* status if the Management Board determines that action by the state with respect to a particular management measure would not contribute significantly to the overall management program. The Amendment does not define *de minimis* criteria for menhaden. In general, other Commission FMPs use a one or two percent landings limit compared to coastwide total landings (or commercial and recreational landings separately).The Board may consider just commercial provisions for the commercial bait and commercial reduction fishery separately due to the magnitude of the landings in the reduction fishery relative to the coastwide harvest.

PUBLIC COMMENT QUESTIONS?

Should the Board consider *de minimis* criteria and should the criteria be specific to the commercial bait, commercial reduction and recreational fishery?

CCA POSITION: We support keeping de minimis criteria as an option in the management plan. As noted previously, the entire recreational fishery would be de minimis under these criteria, thus each states recreational fishery should be granted de minimis status.

Don Swanson
President CCANH
P/O Box 4372
Portsmouth, NH. 03802
603-731-2669

ASMFC Atlantic Menhaden Amendment 2 PID Public Hearing
Plymouth, Massachusetts
April 2, 2012

Attendance

Public (8): John Duane (Wellfleet), Ray Kane (Chatham), Dean Clark (Stripers Forever, Shrewsbury), Theresa Labriola (Pew Environment Group, Providence, RI), Darren Saletta (Mass. Commercial Striped Bass Assoc.; Chatham), Kevin O'Reilly (Plymouth), Greg Wells (Pew Environment Group, Boston), +1

Meeting Staff: Bill Adler (ASMFC Commissioner), Mike Armstrong and Nichola Meserve (MA DMF)

Comment Summary

Issue 1: Timeline to Achieve the Fishing Mortality Target
Four participants commented on the timeline length. All were opposed to including a 10-year timeline in the Draft Amendment, citing the need for more conservative management than that would provide. They were surprised that the 10-year option was even included in the PID. Three participants supported including options for 1- and 3-year timelines only. There was a general recognition that the timeline should be as short as possible given the importance of a healthy menhaden population for the ecosystem and the fisheries that directly and indirectly utilize the fish.

Two participants commented on the level of risk associated with selecting the landings level. Both preferred more than a 50% chance that the landings level would achieve the threshold/target F, although neither explicitly said that 50% should not be included as an option in the Draft Amendment.

One participant commented on how to apply the landings reduction across a multi-year timeline, favoring a larger reduction immediately and smaller reductions in subsequent year(s).

Issue 2: Timely and Comprehensive Catch Reporting
Four participants commented on catch reporting, with all supporting including options in the Draft Amendment that would improve the timeliness and accuracy of the data collected. Good data was seen as necessary for good management. Flaws in data collection from the commercial bait and recreational fisheries were recognized. Two participants commented that uniform monitoring requirements along the coast would benefit managers and fishermen alike. Two participants spoke in favor of options for electronic reporting, with one supporting an option for VMS. One participant supported developing both harvester and dealer reporting requirements.

Issue 3: Recreational Fisheries Management Tools
Three participants commented on whether recreational restrictions should be considered in the Draft Amendment. The first participant thought that every sector should be included in the plan, with some measures implemented on the recreational fishery; he commented that the recreational harvest could be a larger factor than we think because the MRFSS estimates are so poor. The second participant thought that recreational measures should be considered in the future after harvest estimates improve; he commented that with little money to enforce regulations, he would rather see it go towards enforcing the rules on the fishery that is responsible for 99% of the harvest. The third participant thought that recreational measures should not be considered because the regulatory/enforcement burden would be unjustified given the fishery's minor contribution to the total landings.

No additional management tools were offered for consideration.

Issue 4: Commercial Fisheries Management Tools

Four participants commented on commercial management measures. All supported developing coastwide quota(s) as the primary and necessary management tool upon which to build the commercial management system, and developing separate management measures for the bait and reduction fisheries. Three favored a system that would impose a lesser percent harvest reduction on the bait fishery compared to the reduction fishery; the rationale included: the economic multiplier of the bait landings is great than reduction landings; the "maximum sustainable value" of the bait fishery is greater; and the bait fishery operates on a smaller margin. One participant commented that it would be difficult to set a quota for the bait fishery given the incomplete harvest record. Area specific measures, including quotas, were supported by one participant for further development if needed.

Two participants opposed including trip limits as an option because of the discarding that would result.

Issue 5: De minimis Requirements

One participant commented on *de minimis* criteria, and he supported taking out *de minimis* options for public comment in the Draft Amendment. Specifically, he supported developing de minimis criteria by fishery sector.

Atlantic Menhaden PID for Amendment 2 for Public Comment

Atlantic States Marine Fisheries Commission
April 2, 2012
Massachusetts

-- PLEASE PRINT CLEARLY --

Name	Company/Organization	City, State
John Dunne	Self	Wellfleet MA
KAY KANE	Self -	Chatham MA
DEAN CLARK	STRIPERS FOREVER	Shrewsbury, MA
Teresa Laixidla	Pew Environment Grp	PROVIDENCE, RI
Darren Saletta	MCSBA	CHATHAM, MA
Kevin O'Reilly	Self	Plymouth, MA
GREG WELLS	PEW ENV. GROUP	BOSTON, MA

Atlantic Menhaden PID Public Hearing
Narragansett, RI
April 4, 2012
10 Attendees
Meeting Staff: Jason McNamee (RI DFW)

Meeting Participant: see sign in sheet

Issue 1: Timeline to achieve target

Three of the meeting participants indicated support for a 3 year time horizon for meeting the target. Their specific comments included:

- A three year timeline for meeting the target.
- Setting a 100 thousand metric ton landing allowance, which corresponded to meeting a probability = 0.4 for meeting the threshold in 2013 and a probability = 0.75 for meeting the threshold by 2014.
- They also supported this same landing amount for meeting the target in 3 years which corresponded to meeting a probability of better than 0.75 in three years.

Another attendee made the following comments:

- Supported a landing limit that would achieve the threshold immediately.
- Supported setting a landing limit that would achieve the target in the shortest time possible to restore a food source for predators, such as striped bass and tuna, as quickly as possible.
- The ten year timeline should be removed from the document as an option; this person felt that this was much too long a time length, especially given a recent report produced on the importance of forage species.
- Any strategy should have at least a 75% of achieving the goals set, a coin toss (referencing a 50% probability) was not adequate for reaching the goals set by the amendment.

Issue 2: Catch reporting

Two of the meeting participants indicated support for using the SAFIS program to monitor landings. Their specific comments included:

- SAFIS is effectively used in RI therefore this is a good option to use for menhaden monitoring.

Another attendee made the following comments:

- Supported a consistent electronic weekly reporting system. Paper logs would not be adequate to track a quota for this species along the coast.

Another attendee stated that many of the menhaden fisheries report daily already.

Issue 3: Recreational measures

Three of the meeting participants indicated support for implementing a bag limit for recreational fisheries. Their specific comments included:

- RI has set the bar for managing menhaden in this regard and has successfully instituted a bag limit for its recreational fishery.

- A bag limit is an easy measure to implement coastwide given that all coastal areas have their own unique characteristics. A bag limit could be applied universally.

Another meeting participant made the following comment:

- If the recreational fishery constituted less than one percent of the total harvest of menhaden along the coast, it should be exempt from any restrictions, i.e. grant them de minimus status.

Issue 4: Commercial measures

One meeting participant made the following comments:

- Area closures for the Chesapeake Bay.

- Earlier in the meeting he supported removing a vessel from the reduction fishery fleet while placing harvest caps on the other vessels as a way to constrain harvest.

- Later in this discussion this individual mentioned that a moratorium on licenses as another way to constrain harvest and at least keep it at current capacity levels. This moratorium should be based on a fisherman's history, so if that fisherman could produce a fishing history within the last three years, they could receive a license to fish commercially.

Three of the meeting participants indicated support for implementing a combination of measures to meet commercial fishing management goals. Their specific comments included:

- RI has successfully implemented a program where there are trip limits, area closures, and quotas as an effective way to constrain harvest.

- The quota gives the overall framework but then the additional measures discussed are applicable to meeting the quota goals, therefore they did not want to rule out any one of the potential tools for management use.

Another meeting attendee supported the following:

- Coastwide quotas or harvest caps are the best measure to achieve management goals. She went on to state that during the earlier amendment hearings, 87,000 people along the coast voiced support for implementing coastwide quotas.

- She added some additional management measures for the ASMFC to consider that she did not think were in the document. One would be the designation of allowable gears in the fishery as a way to build certainty in to the measures. The use of carrier vessels in the fishery and how they effect the distribution of where the resource is being harvested should also be analyzed.

Issue 5: De minimus requirements

One meeting participant stated that given its relatively low harvest rates, the recreational fishery should be considered for de minimus status, as long as the fishery continues to harvest below a 1% threshold. To make sure this fishery remains under the threshold, it should be annually monitored.

Another meeting participant stated that if a state qualifies for de minimus status they should not be allowed to vote on the management board. He also wondered about how de minimus would be established so he felt this needed to be specified before any state is granted de minimus status.

Another meeting participant stated that he felt a bag limit was the way to go, that allowing de minimus status could lead to regulatory loopholes that would hinder meeting the management plan goals.

A meeting participant stated that a recreational or bait fishery in any particular state that was under the 1% threshold could be considered for de minimus status, but the key for granting this status would be rigorous and accurate monitoring of the fisheries.

General Comments

A comment made was on the importance of enforcement to make the regulations work. The measures should be enforceable and the penalties should be large enough to discourage malfeasance. He also felt that monies should be directed to the states in order that they may properly run their individual programs.

A comment was made by a bait fishery representative that they supported setting a limit on the fishery that would be sustainable and was based on science.

A comment was made voicing concern over the timing of implementation and the comment was made urging ASMFC to not allow this to slip off of the current timeframe because this would lead to several more years of unregulated fishing on this impacted species.

Atlantic Menhaden PID for Amendment 2 for Public Comment

Atlantic States Marine Fisheries Commission
April 4, 2012
Rhode Island

-- PLEASE PRINT CLEARLY --

Name	Company/Organization	City, State
Rich Hittinger	RIMFC, REC.	Warwick, RI
GEORGE ALLEN	ROC FISHERMAN, RISAA	PORTSMOUTH, RI
Stephen Medeiros	RISAA	Coventry RI
Edward Cook	RISAA	W. Kingstown
Theresa Labriola	PEW ENV. NOMENTUM/	PROVIDENCE, RI
Drew Manchester	IRDC	Washington D.C.
JEFF KAELIN	LOUD'S FISHERIES	CAPE MAY, NJ
Jeff BACKER	West Bay Anglers	WARWICK RI
LOUIS LACHANCE	ARK BAIT CO.	SWANSEA MA.
RICHARD SOUZA	ARK BAIT Co	SWANSEA MA.

New York Menhaden Amendment 2 Public Hearing
March 27, 2012
5 Attendees

Public Comments:

Charles Witek – Submitted written comments on behalf of CCA [See written comments NY#1]

Issue 1 – Should achieve the F target in 3-5 years, 10 years is too long, one year is too fast
Restore as soon as practical

Issue 2 – Reporting needs to be comprehensive, accurate, and timely.
Significant bait harvest is un reported, menhaden bait demand likely to increase with decrease in herring quotas, big herring boats may shift to harvesting menhaden
Reporting from recreational fisheries is not cost effective, need to add menhaden to list of MRIP species
Recreational fisheries should be de minimis – recreational management measures are not worth the return.
Only potential recreational measure is a bag limit. This will ensure "recreational" harvest is not being used for commercial purposes. Size limit is not enforceable.

Issue – 3 Commercial regulations – opposed to days at sea. It is too early for limited entry. Let the fishery proceed under new regulations for a few years and then explore limited entry.

De minimis is reasonable but there is concern that effort will shift to states like New York if there are not measures in place to control expansion.

William Young
Generally agreed with the comments from Charles Witek.

Reiterated the need to improve reporting and use of a 4-5 year timeline to achieve target.

Carl Loboue
Will submit written comments

BUREAU OF MARINE RESOURCES

MEETING: ASMFC - AMEND 2 for Atlantic Menhaden

DATE: 27 MAR 2012

NAME	ORGANIZATION	TELEPHONE/FAX	E-MAIL ADDRESS
#1 CHARLES WITEK	COASTAL CONSERVATION ASSOC. NY	631-587-2211	charleswitek@optonline.net
Theresa Labriola	PewEnvironment Grp-	4014214386	tlabriola@pewtrusts.org
WILLIAM YOUNG	N.Y.C.R.F.	516-647-8492	MSAWIZ@OPTONLINE
Ross Stumme	Commercial Fish	631-481 6032	
CARL LOBUE	TNC	631-367-3384 Ext 113	clobue@tnc.org

NY #1

COASTAL CONSERVATION ASSOCIATION
NEW YORK
P.O. Box 1118
West Babylon, NY 11704

March 27, 2012

Michael Waine
Atlantic States Marine Fisheries Commission
1050 N. Highland Street, Suite 200 A-N
Arlington, VA 22201

Dear Mr. Waine:

Coastal Conservation Association New York ("CCA NY") is taking this opportunity to comment on the Public Information Document for Amendment 2 to the Fishery Management Plan for Atlantic Menhaden (the "PID"). CCA NY is pleased that the Atlantic States Marine Fisheries Commission ("ASMFC") has adopted new, more conservative reference points for use in managing the Atlantic menhaden resource, and urges ASMFC to move forward with Amendment 2 to the Fishery Management Plan for Atlantic Menhaden ("Amendment 2") as expeditiously as is practicable. Menhaden are arguably the single most important forage fish species extant in the inshore waters off the Atlantic coast, and are preyed upon, at one stage or another during their lives, by everything from summer flounder to humpback whales. Thus, they represent an economically important resource, which may be more valuable as a prey species which plays a large role in the diets of a number of valuable, commercially- and recreationally-caught finfish than as a target species which can only be profitable if captured in bulk due to menhaden's very low per-unit price.

ISSUE 1
THE FISHING MORTALITY TARGET SHOULD BE ACHIEVED, WITH A REASONABLE DEGREE OF CERTAINTY, WITHIN A THREE TO FIVE YEAR TIMEFRAME

The new reference points adopted by ASMFC's Menhaden Management Board last November represent a significant improvement in the management of the species. Since the menhaden spawning stock has

declined to just 8% of maximum spawning potential,[1] it is important that fishing mortality be reduced below the overfishing threshold of F=1.32 immediately upon the adoption of Amendment 2. Once that has been accomplished, fishermen should be given a reasonable amount of time to scale back their harvest and achieve the target, F=0.62. The difficult question, of course, is just what constitutes a "reasonable" interval.

CCA NY believes that neither one year nor ten years represents a "reasonable" rebuilding period. The cuts associated with achieving the target in 2013 would have to be too great to make a one-year rebuilding period a viable option. At the same time, given the importance of menhaden to inshore ecosystems and the statistical uncertainty that always clouds extended rebuilding plans, ten years is far too long. Large populations of inshore predators such as striped bass and bluefish require that a healthy forage base be established and maintained as soon as possible. A three to five year rebuilding period strikes a reasonable balance between the need to increase menhaden abundance and the practical difficulties associated with reducing harvest. However, whatever the rebuilding period ultimately chosen, reductions must be phased in from the very start, and not delayed in a manner that puts off the greater part of the cutbacks to the last years of such period.

However, merely establishing a rebuilding period is not sufficient to provide a reasonable assurance that the stock will be rebuilt. The harvest reductions to be imposed must be large enough to provide a high probability of success. Any measure which has only a 50% probability of achieving the threshold and target also carries with it a 50% probability of failure. That is not acceptable; ASMFC should not risk the health of an important fish population on what is, statistically, the flip of a coin. Far more certainty is required. CCA NY believes that nothing short of a 75% probability of success is far more acceptable, and notes that even that probability implies a one-in-four probability of failure.

ISSUE 2
COMMERCIAL CATCH REPORTING MUST BE COMPREHENSIVE, ACCURATE AND PUBLICLY ACCESSIBLE

Any fishery management plan which depends on harvest controls for its success also depends on managers' access to complete and accurate harvest data. While CCA NY believes that the data relating to the reduction fishery is probably accurate enough to support management decisions, it has grave reservations as to the accuracy and completeness of the data relating to the bait fishery. In CCA NY's view, ASMFC's comment that "The current catch reporting requirements for the Atlantic menhaden fisheries do not provide timely or complete data for use by managers and scientists"[2] is a gross understatement when applied to the bait fishery, which ranges in scale from lobstermen catching

[1] Atlantic States Marine Fisheries Commission, Public Information Document for Amendment 2 to the Fishery Management Plan for Atlantic Menhaden, February 2012, p. 3.

[2] *Ibid.*, p. 7.

menhaden for personal use to small- and medium-scale trap fishermen, gill netters and seine boats to very large mid-water trawlers.

Part of the problem is caused by reporting requirements that capture only part of the harvest and vary widely from state to state; part of the problem is caused by the diverse nature of the bait fishery, which includes many small-scale harvesters that may not fully comply with whatever reporting requirements may exist. (In New York, for example, over the course of a year tackle shops sell a significant amount of live and freshly-killed menhaden to anglers. Such menhaden are caught by a number of participants, including part time—and possibly unlicensed—fishermen, employees of the shops themselves and professional "baymen" who are regular participants in the bait fishery. It is not at all clear that all of such harvest is recorded, and while each individual's take may be *de minimis* when compared to overall landings, when taken as a whole, either on a statewide or a coastwide basis, such removals can have an impact on both fishing mortality and local abundance.) Thus, there is a need to implement a harvest reporting system which is designed to account for all commercial landings, from both small-scale and large-scale harvesters, in a timely fashion.

That need is made more urgent by the increasing importance of menhaden in the bait fishery. As greater restrictions are placed on the harvest of Atlantic herring, which restrictions are likely to increase as a result of the recent court decision which addressed river herring bycatch,[3] such fish, once the bait of choice in the lobster fishery, has grown scarcer and more expensive. Menhaden are quickly becoming a cheap and readily available substitute. This becomes manifest when one reviews reported landings in the bait fishery, which has clearly "grown in recent years."[4] If, as seems certain, landings in the bait fishery are both growing and inadequately reported, one of the priorities of Amendment 2 must be to implement a reporting system that can fully and accurately track landings in this important and growing sector of the menhaden fishery.

Having said that, CCA NY is not prepared to propose a specific mechanism intended to track such landings. Instead, CCA NY believes that, once the need for the compete and timely reporting of all menhaden harvest has been recognized in Amendment 2, it should be left up to the fisheries managers who will use the data to devise a reporting methodology that will meet their requirements.

It should be noted that the above discussion addressed only commercial harvest reporting, and did not address any need to estimate recreational harvest. In part, that is because recreational fishermen account for a very small proportion of recreational landings, being responsible for less than 1% of menhaden harvest in most years.[5] In part, it is because anglers comprise such a large and diverse group

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[3] *Flaherty v. Bryson*, decided in the United States District Court for the District of Columbia on March 9, 2012

[4] Atlantic States Marine Fisheries Commission, *Stock Assessment Report No. 10-002 of the Atlantic States Marine Fisheries Commission, Atlantic Menhaden Stock Assessment and Review Ponel Reports*, 2011, p. 47.

[5] *Ibid.*, p. 63

that any reporting methodology specifically designed to quantify recreational harvest would quickly become too large and unwieldy to be practical; given the small impact that anglers have on menhaden mortality, the cost of such project would very quickly outstrip its value. The Marine Recreational Information Program, although imperfect, will provide data accurate enough to evaluate the recreational menhaden fishery, and will do so in a cost-effective manner.

ISSUE 3
GIVEN THE MINIMAL IMPACT OF RECREATIONAL FISHERMEN ON MENHADEN MORTALITY, THE STATUS QUO SHOULD BE MAINTAINED

As noted in the previous section, the recreational sector is a very minor contributor to menhaden mortality. Thus, any restrictions placed on that sector will have a very minor impact on rebuilding the menhaden stock. As was the case with reporting, it is unlikely that the effort required to impose such restrictions would be reflected in any corresponding benefit to the stock. Thus, it is probably best that the status quo be maintained.

ISSUE 4
FISHERIES MANAGERS SHOULD BE GIVEN A BROAD ARRAY OF TOOLS WITH WHICH TO MANAGE THE FISHERY, ALTHOUGH SOME PROPOSED MEASURES, INCLUDING TRIP LIMITS AND LIMITED ENTRY, ARE NOT APPROPRIATE FOR THE MENHADEN FISHERY

The menhaden fishery must be rebuilt to levels of abundance appropriate for an important forage species. Thus, the status quo, which has permitted menhaden abundance to decline to 8% of maximum spawning potential, is not a viable option.

Because fisheries managers must be able to adapt to changing conditions in both the fishery and the marine environment, in order to craft effective management measures, CCA NY urges that most of the proposed commercial fisheries management tools remain in Amendment 2. Trip limits, gear restrictions, season closures, area closures, quotas and restrictions on the size, capacity and upgrading of vessels are all management measures that should be available to regulate the menhaden fishery.

However, CCA NY does not believe that days at sea represent an effective control. They were neither effective nor well-received in a number of other fisheries, and there is no reason to believe that they will produce better results when applied to menhaden. In practice, fishermen have found ways to frustrate at least some of the impact of such controls, either by fishing more productively while on the water or by finding "loopholes" which permit them to evade the spirit, but not the word, of such regulations (e.g., if a boat is not "at sea" but has left gill nets, fish traps or other fixed gear in the water, the impact of the days at sea restriction on mortality is minimized).

CCA NY is also opposed to limited entry, at least at this time. Amendment 2 will very possibly reshape the current face of the menhaden fishery. Limited entry will tend to perpetuate current harvesters and current allocations, which might not be the fishery was permitted to evolve naturally in response to market forces. CCA NY believes that, instead of imposing an artificial state of stasis upon the current fishery, locking it into what is effectively its past, ASMFC should be looking ahead and deciding what the future shape of the menhaden fishery should be, in order to provide the greatest public benefit.

ISSUE 5
DE MINIMIS PROVISIONS SHOULD BE INCLUDED IN AMENDMENT 2

De minimis provisions are typically included in ASMFC's fishery management plans, and should be included in the menhaden plan as well. Such provisions are of ultimate benefit to both the resource and to fisheries managers, as they permit emphasis to be placed on jurisdictions and on sectors which have a meaningful impact on the fishery, and don't waste management assets in meaningless regulatory efforts.

As noted earlier, the entire recreational menhaden fishery could well qualify for *de minimis* status, given that it only accounts for 1% of overall mortality. The Menhaden Management Board should be able to grant *de minimis* status to that sector, and to any other sector or jurisdiction that truly has a de minimis impact on the menhaden resource.

SUMMARY

CCA NY asks ASMFC to require fishermen to meet the fishing mortality threshold immediately upon implementation of Amendment 2. However, given the greater reductions required to achieve the fishing mortality target, fishermen should be given between three and five years to make the required reductions. However, to better assure that such reductions are ultimately achieved, the harvest restrictions adopted by ASMFC must have a 75% probability of accomplishing their goal.

Because accurate catch data is needed to assure the effectiveness of the fishery management plan, ASMFC must adopt a commercial harvest reporting system that includes all participants in the commercial fishery, and which can provide accurate data in a timely fashion. The implementation of such a system is particularly important with respect to the expanding bait fishery, as harvest in that fishery is almost certainly badly underreported. Because the recreational fishery is responsible for only a very small proportion of menhaden mortality, it would not be cost-effective to implement a dedicated harvest reporting system for that sector.

Also, because of the minor impact of the recreational sector on menhaden mortality, implementing and enforcing harvest restrictions on that sector would also not produce benefits commensurate with the related costs. Instead, regulatory efforts should be concentrated on the far larger commercial fishery.

In that regard, managers should have the widest possible array of management measures available to them, so that they can easily respond to whatever challenges arise out of the fishery or out of environmental conditions. However, two of the proposed management measures, days at sea and limited entry, should not be included in Amendment 2, the former because it has proven to be ineffective and the latter because it would artificially constrain the fishery to its current shape, and give to little thought to what shape such fishery should take in the future.

Thank you for considering CCA NY's views on this matter.

Sincerely,

Charles A. Witek, III
Vice Chair

New Jersey Public Hearing
April 5, 2012
50 attendees (3 commissioners, 2 staff)

Ronald Walker – Walker Bros Fisheries Bait Boat. How are they going to determine what the reductions will be? He has been on the water for 30 years and he has seen more menhaden now than ever before. If they are going to make the cut they should do it slowly, so reduce over several years.

Walker Bros Fisheries. If you take all the statistics of the all the states and what they caught last year there were so much fish out there it can't be compared to other years. The fish suffocate themselves in the bay from less oxygen because the temperatures were so high in the bay. You can't take a number against us because we see the drastic changes from year to year. The landings are variable and he has seen that since starting in 2007. There should be a 5% or 10% reduction not a 37% or whatever the reduction is estimated to be. They are spending a lot of money on supplies and equipment for fishing. You can't base your status determination on landings, just because NJ has less landings doesn't mean there is less out there.

Captain for Lund's Fishery. He thinks there is too much variation in all the data. He supports status quo across the board. He knows that the menhaden stock fluctuates greatly, and to put a number on it is impossible. 3% is the amount is should be reduced.

Paul Eidman Menhaden Defenders [see written comments NJ#3]. New reference points need to be implemented. Include as many practical options in the amendment except the 10 year time frame. It is time for ASMFC to act to protect this ecologically important fish. Implement measures in time for the 2013 season. Over 90 thousand comments received to change the F reference points. ASMFC should finalize the document by the end of 2012. He supports a 3 year time frame to achieve the target. The 10 year rebuilding time frame should be removed as an option. A TAC should be set coast wide and the threshold F should be achieved immediately. He hopes that moving forward NJ representatives will back the anglers that want to see more bunker in the waters. They don't want to end up like the Chesapeake Bay. Please stop putting the social and economic needs of the commercial industry above all else. Increase abundance over 3 not 10 years. Look forward to all benefiting from menhaden rebounding.

Lund's Fishermen since early 1990s. Good luck to the modelers that assess the menhaden. They move all over the place, and they are so variable that just because they are absent at times doesn't mean they are not around. In the last 5 years they are seeing a lot of small fish. Questions the accuracy of the science.

Jeff Kaelin Lund's Fishery. Large company 150+ markets. Landings for lund's were worth $4.5 million dollars at the dock and the value increases when you consider value to all other endpoints. The health of the menhaden resource does not appear to be threatened, and that he acknowledges that the fishery is vulnerable without a TAC if one is needed (but only on good science). The terminal year was used to establish the overfishing status and that seems questionable. The stock is not overfished so they question the need for action. He mentioned the lack of relationship with F and recruitment, as in environmental conditions have a bigger impact

on recruitment. JAIs are limited and come from a very confined area. The 2008 was above average the 2009 and 2010 are good year classes according to Beaufort lab. The stock is not overfished so why is the major focus on reducing F to the target and not on the threshold reference point. They suggest that the menhaden go through a benchmark stock assessment and not just an update. They support daily reporting by harvesters and dealers electronically. Gear used area fished and whether from fed or state waters. Sample catch for data. Reporting should occur in recreational fishery. Not supportive of trip limits in Commercial fishery. Gear restrictions do not work, and don't support seasonal closures. There should be a TAC not allocated between the states and not allocated by bait and reduction fisheries. Both underages and overages should be used. Suggest a coastwide quota April or May 1 until the end of the year. Effort controls should be limited access coast wide as soon as possible. De minimis is fine, if they are de minimis status they should lose their vote.

Manager of Great Egg Harbor River [see written comment NJ#1]. He considers menhaden as an important forage fish. The lenfest task force was suggesting a 30% for the threshold and 40% for the target. As a recreational fishermen, he feels underrepresented in NJ.

Recreational fishermen had the following comments by issue.
Issue 1 – target should be achieved over a max of 3 years. He noticed an invasion of bunker boats and watched daily as each boat unloaded their catch for several weeks 24/7, he is concerned that this is sustainable. Looking at the figures presented, the increase in catch of bait fishermen is about 25% in NJ. It seems like NJ has the most abundance of fish and also has the most fish being taken
Issue 2 – Standardized electronic reporting, everything should be current.
Issue 3 – Recreational fishery represents an insignificant amount of landings and seems unimportant to manage.
Issue 4 - Bait and Reduction fishery should be managed differently and separated. Bait industry is provided to other fisheries and so the impacts to this sector is much more significant. If you shut down the reduction fishery it would have no impact on the public with the exception of that company.

Recreational fishermen. Recreational fishery is so insignificant, if overfishing is occurring in commercial industry there should be some quota to reduce catch.

Jerry Craig Lund's Fishery Captain. No fence out there fish are where you find them. They have substantial trouble finding fish without the planes. In 2009 they were much farther offshore, the planes helped them locate them which is why it makes sense the recreational anglers didn't see them. In 2010 they couldn't find schools that were small enough to harvest, meaning there were so many fish out there. His pilot wishes he was younger because he now sees more fish there he's ever seen, so he wishes he was younger to work longer seeing so much abundance of menhaden.

Richard Eisenson Bait dealer. Support status quo on both recreational and commercial fisheries. He is seeing more bunker out there then he's ever seen. State of NJ has killed more fish than they caught because of fish kills. The market is limiting the demand for bunker so you can't just look at the landings. If they come inshore they will end up dying if the water temperature gets

too hot. He suggested that the reductions occur for the reduction industry. If you cut menhaden to the level you're suggesting you will see more fish kills then you have ever seen.

James Krauss Chair of Environmental Commission of Atlantic Islands [see written comments NJ #2]
Two concerns to menhaden population. 1. Health and cleanliness of the bays, recognizing the importance of menhaden as a filter feeder. 2. The harbor is dependent on a vibrant recreational fishery, so keeping menhaden maintained is crucial. They urge ASMFC to implement measures to restore the bays. Suggest option 4, 5 and 6 for the area closures, season closures, and quotas, all in regards to the commercial fishery because they believe the recreational fishery is de minimis.

Bass Angler State of NJ. He does not have confidence in recreational landings numbers. He noted that in 2009 the landings being 0 are impossible. He suggests that we move slowly with whatever ASMFC does because of the lack of confidence in the numbers.

Bruce Michelson Striper Club Rec fishermen. Fished since he was 12. He looks at the PID and he can't understand it because it is in the language of fishery biologist. He sees arrogant comments, smiles, snickers, and it speaks to him not what's happening statistically, but more in a spirit sense. You need a point group that breaks the information down to people who are not fisheries biologists. You need to concentrate on breaking down the message. There is no sense in arguing amongst ourselves, the fishermen in the room are the ones that know what going on. You need to work on your credibility. Need to remember they we are all NJ people, and we need a unified voice. Collectively NJ does not put a dent in the total landings, but if you look at the reduction industry that is a significant component. The reduction industry bothers him because those dollars are being sent overseas.

Casey Striped bass Club stated that clearly better data are needed.

Atlantic Menhaden PID for Amendment 2 for Public Comment

Atlantic States Marine Fisheries Commission
April 5, 2012
New Jersey

-- PLEASE PRINT CLEARLY --

Name	Company/Organization	City, State
PAUL HARRIS	NEW JERSEY BEACH BUGGY ASS	BAYVILLE NJ 08721
(1) Ronald WALKER	WALKER BROTHERS FS	CAPE MAY NJ
(2) Darren Walker	Walker Brothers Fisheries	Cape May NJ
Ryan Livingston	Lunds Fishery	Cape may, NJ
Philip Schneider	lunds fishery	Cape May, NJ
(3) Jeff Livingston	lunds fisheries	Cape May, NJ
Jennifer Livingston	lunds fisheries	Cape May, NJ
Colin Archer	Menhaden Defenders	Ocean NJ
TOM MATULONIS	MENHADEN DEFENDERS	EDISON NJ
(4) CAPT PAUL Eidman	Menhaden Defenders	Red Bank NJ
Capt. Joe GAHRMANN	Sylvie Phish Sportfishing	Spring lake NJ
MARTY BUZAS	N ATLANTIC OCEAN	USA
(5) Bill & Sue Lumbruno	Bunker Bill Inc.	Cape May NJ.
(6) JEFF KAELIN	LUND'S FISHERIES INC	CAPE MAY NJ
Benson Chiles	Chiles Consulting	Atlantic Highlands, NJ
(7) FRED AKERS	GEHWA	NEWTONVILLE NJ
(8) Ken Warchol		Point Pleasant NJ,
Wayne Reichle	Lund's fisheries	Cape May, NJ.
Dan Axelsson	Axelsson Seiner	Cape May, NJ
(9) DON MARANTZ	JCAA, WBFC, HRFA	CLARKSBURG, N.J.
Roy Diehl	Belford Co-op	Belford NJ
GARY COTTRELL	Cottrell's Seafood	WHITETOWN, N.J.
PAUL ISAKSEN	Tiffany	Belford
JOE O'Donnell	Axelsson Seiner	Cape may NJ
Brian Abrams	Axelsson	Cape may NJ
Adam DiMedio	Lund's	Cape May NJ
Chelsea Smith	Axelsson Seiner	Cape May NJ
Jeff Kiernan / Dal Consultant	Lund's Fisheries Inc	Cape May NJ
(10) Jerry Gaskin	Belford / Lunds fisheries	Cape May NJ
Michelle Reynolds	Lund fish	Cape May

	Name	Company/Organization	City, State
11	Richard Isaksen	Belford coop	Middletown NJ
	Robert ISAKSEN	Belford coop	FWW Little Ike
	Stephen Reynolds	Lunds Fisheries	Cape May
	Robert Cunningham	Lunds Fisheries	Cape May
12	James KRAUSE	Atlantic Highlands Environmental Commission	Atl. N.J.
13	Mike COPELMAN	ANGLER	Howell NJ
	Dan Kostyun	McCharles	Hamilton NJ.
	George Frame	Nat. Park Service	Sandy Hook
	Thomas Cook	Shark River Surf Anglers	Shark River Hills, NJ
14	Bruce Mickelson	NJ MAR STRIPER CLUBS	BRANCHBURG NJ
15	CASEY CAMPI	" " "	LITTLE J, NJ
	Donald C. Gates	Atlantic Highlands Environ. Commiss.	Atlantic Highlands
	Patty Doerr	The Nature Conservancy	Delmont, NJ

Name	Company/Organization	City, State
Steven Lashley	Lund's Fisheries	Cape May NJ
Dustin Brownsend	Lund Fisheries	Cape May NJ

Fred Akers

NJ #1

The Great Egg Harbor Watershed Association & River Council

Fred Akers - Administrator
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May 5, 2012

Michael Waine
Fishery Management Plan Coordinator
Atlantic States Marine Fisheries Commission
1050 North Highland Street, Suite 200A-N
Arlington, Virginia 22201

RE: Menhaden PID

Dear Mr. Waine:

As both a recreational fisherman and the local manger of the coastal Great Egg Harbor River, I am very concerned about the impacts of the current depletion rate of menhanden to both recreational sport fishing and the ocean food chain ecology.

In a recent report from the Lenfest Forage Fish Task Force, *Little Fish, Big Impact*, scientists recommend that a much more conservative approach is needed to protect forage fish like menhaden.

In an April 2, 2012 New York times article, Bob Beal from the ASMFC said that while the commission's new plan for the menhaden fishery is not as conservative as some scientists sought, "it's a pretty big departure from where it's been managed". He said the commission had to weigh the needs of the fishing industry as well.

So given the fact that the Menhaden PID amendment is a scientific conservation compromise to start with, I offer the following categorical comments by the issues outlined in the PID:

Issue 1 – Timeline to Achieve the Fishing Mortality Target Background:

The ten-year timeline should be removed from the document. This is too long to wait to achieve the fishing mortality target and to restore a major component of our Atlantic forage base. This amendment is already a compromise to the scientific urgency for conservation and needs to be expedited.

Restoring menhaden sooner, within 3 years, will give predator species such as striped bass, bluefin tuna and shorebirds a stable and dependable food source. Any plan to achieve the target should have a 75 percent probability of achieving the target on time. Uncertainty associated with a less robust risk policy could quickly take the plan off course.

Issue 2 – Timely and Comprehensive Catch Reporting:

Complete and timely reporting of all commercial menhaden catch is necessary to ensure success. A consistent, weekly, electronic reporting system should be implemented. Timely reporting is the backbone of an effective management plan, such as a coast wide cap.

Issue 3 – Recreational Fisheries Management Plan

The recreational fishery should maintain de minimus status, as long as the fishery continues to catch less than 1 percent of the total coast wide catch.

Issue 4 – Commercial Fisheries Management Plan – Coast-Wide Cap

The Commission should set a coast wide catch cap. A coast wide cap is the only measure that will ensure that annual landings recommended by the Commission to reach the new target are not exceeded. A catch cap also establishes a more predictable fishery. Other options, such as input controls, are rarely effective at controlling catch, because they are indirect measures. This can allow excess fishing that threatens recovery.

Designation of allowable gears would add predictability to the fishery. The current gears used by the bait and reduction fisheries provide the Commission with a predictable picture of capacity, market and fishing activity. By designating gears used for directed menhaden catch, the Commission could build certainty into their rebuilding plan.

Other management measures such as trip limits, gear restrictions, season closures, area closures, quotas and restrictions on the size, capacity and upgrading of vessels should be considered only in conjunction with a coast wide catch cap. Days at Sea should not be considered.

Issue 5 – De Minimus Requirements

The Commission should consider setting de minimus criteria for the commercial bait and reduction fisheries in states with landings below one percent compared to coast wide total landings. This would allow the Board to focus resources on jurisdictions that have a meaningful impact on the fishery. De minimus status must be subject to rigorous monitoring and applicable limits, beyond which they will no longer quality for de minimus status.

It is much appreciated that the ASMFC is beginning to address the seriousness of the menhaden abundance decline, and I thank you for the opportunity to comment on actions in this process to better conservation and manage menhaden populations. There is definitely a sense of urgency to better protect the menhaden here, and timely management actions by the ASMFC are fully warranted.

Sincerely,

Fred Akers

Too Many Small Fish Are Caught, Report Says

http://www.nytimes.com/2012/04/02/science/earth/forage-fish-catches-should-be-reduced-report-says.html?_r=2&ref=us

By HENRY FOUNTAIN

Published: April 2, 2012

An international group of marine scientists is calling for cuts in commercial fishing for sardines, herring and other so-called forage fish whose use as food for fish farms is soaring. The catch should be cut in half for some fisheries, the scientists say, to protect populations of both the fish and the natural predators that depend on them.

"The message is, if you cut back on harvesting of forage fish, there will be benefits," said Ellen K. Pikitch, director of the Institute for Ocean Conservation Science at Stony Brook University and chairwoman of the task force that produced a report on the issue that was released Sunday.

The report, "Little Fish, Big Impact," financed by the Lenfest Foundation through the Pew Charitable Trusts, details how fishing has increased for these fish, which now account for 37 percent, by weight, of all fish harvested worldwide, up from about 8 percent half a century ago. The consumer market for forage fish is relatively small; most of the fish are ground and processed for use as animal feed and nutritional supplements and, increasingly, as feed for the aquaculture industry, which now produces about half of all the fish and shellfish that people eat.

Forage fish are an important link in the food chain, eating plankton and being consumed, in turn, by large fish like tuna and cod, as well as by seabirds and dolphins and other marine mammals. The task force estimated that as a source of food in the wild for larger commercially valuable fish, forage fish were worth more than $11 billion, or twice as much as their worth when processed for aquaculture and other uses.

"Sometimes the value of leaving fish in the water can be greater than taking it out," Ms. Pikitch said.

The report cites several cases in which overfishing of forage fish has led to the collapse of populations of larger fish or other predators, and suggests that such cases could increase unless catches are reduced.

On the East Coast, the fishery for menhaden, a forage fish, is the largest in the region, and about 80 percent of the catch is processed into meal and other products. The abundance of menhaden has declined over the last quarter-century, said Edward D. Houde, a professor at the University of Maryland Center for Environmental Science and a member of the task force, as the fish's reproductive rate has fallen. Yet fishing has continued at a high rate.

Bob Beal, an official with the Atlantic States Marine Fisheries Commission, a regional group that coordinates management plans for the menhaden and other fisheries, said that in 2010, the menhaden population was estimated to have been reduced to 8 percent of its maximum potential. As a result, Mr. Beal said, the commission has recommended reducing the allowable catch so that the population roughly doubles, to a threshold of 15 percent of the maximum level, with an eventual target of 30 percent. The reductions would take place next spring, after a period to allow for public comments on the proposal.

But Mr. Houde said that in the case of menhaden, the task force would recommend a threshold of 30 percent and a target of perhaps 40 percent, which would mean even greater catch reductions. "Our recommendation is to be very precautionary," he said, "mostly to protect other things in the ecosystem, but also to protect the fish itself."

Mr. Beal said while the commission's new plan for the menhaden fishery is not as conservative as some scientists have sought, "it's a pretty big departure from where it's been managed." He said that the commission had to weigh the needs of the fishing industry as well.

"Ultimately, the hope of the managers is to rebuild the stock," he said, "so the industry can get what they want out of it, and prey animals can get what they want out of it, too."

ASMFC Hearing re: Amendment 2 to Menhaden Management Plan.

Toms River, April 4, 2012

My name is James Krauss. I am chair of the Environmental Commission of the Borough of Atlantic Highlands, New Jersey, and am speaking on behalf of the Commission.

Atlantic Highlands is located on the southern shore of Sandy Hook Bay, which is contiguous to Raritan Bay. We have two concerns in regard to the menhaden population in Sandy Hook and Raritan Bays.

The first concern is for the health and cleanliness of the two bays. As you are aware, the menhaden is a filter feeder and plays a significant role in controlling the micro-organism population.

Our second concern is in regard to our municipal harbor, which underwrites approximately one-seventh of our borough's budget. The harbor is dependent on a vibrant recreational fishery. We have ten party boats, several charter fishing boats and approximately 200 private fishing boats moored in our harbor. We also have a large and very active launch ramp. Maintaining clean water and a balanced ecology is vital to maintaining a healthy recreational fishery in the bays, as well as maintaining the economic health of our harbor and the Borough of Atlantic Highlands.

I have personally fished Sandy Hook and Raritan Bays since 1986. At one time, there was a large menhaden presence from early Spring through late Fall. There used to be a Fall run of large striped bass in the bays that lasted into December. About ten years ago things changed. The menhaden would be gone by late summer. That clearly appeared to coincide with an increase in the commercial bait fishery in the bays. And the result was that the large bass no longer came into the bays in the Fall. That has had an economic impact on our harbor and its tenants.

We urge the ASMFC to adopt whatever measures are necessary to restore the menhaden population in Sandy Hook and Raritan Bays. We ask you to seriously consider Option 5 – Area closures, possibly in conjunction with Option 4 – Season Closures and Option 6 – Quotas, and all in regard to the commercial fishery, as we believe that the recreational harvest is diminimus.

NJ #3 Paul Eidman 1 of 3

Council Members-
Thank you for this opportunity to comment.
With the Bunker stocks at an all time low, I'm pleased that the ASMFC is moving forward. Setting reference points is a good first step, but they mean nothing in the absence of implementation and enforcement. It's critical that the menhaden management board moves forward, keeps going and sets a limit on how many bunker are landed.

I don't mean to show disrespect here, but this past November, New Jersey anglers were shocked and disappointed in the way that New Jersey council members voted on this issue.

It is my hope that moving forward, New Jersey's council members will represent the hundreds of thousands of anglers that want to see more bunker in the water. You must take into account that an abundance of bunker in our waters is the key to having a vibrant fishery.

We don't want to wind up like the Chesapeake bay, with fishing grinding to a halt, marinas closing and portions of the bay becoming devoid of life.

Stop putting the socio economic needs of a few commercial interests ahead of hundreds of thousands of anglers and all the local economies that depend upon good fishing to bring in business.
Menhaden Defenders wishes to reduce menhaden landings, increase abundance over the next 3 years (NOT 10) and expedite this process without delay. We look forward to implementation in 2013 so that all will benefit from a more abundant forage base.

Thank you for this opportunity to comment,
Capt. Paul Eidman
MenhadenDefenders.org

Michael Waine
Fishery Management Plan Coordinator
Atlantic States Marine Fisheries Commission
1050 North Highland Street, Suite 200A-N
Arlington, Virginia 22201
Fax: (703) 842-0741

Dear Michael Waine,

Atlantic menhaden is a critical species to our marine ecosystem, yet overfishing has occurred 52 of the last 54 years. The population is now at record low levels.

It is time for the ASMFC to act by establishing the first ever coast-wide limit on menhaden landings, along with appropriate management measures to insure that limit is not exceeded.

The ASMFC must implement the new amendment in time for the 2013 fishing season. The ASMFC has seen overwhelming, unprecedented public support for menhaden conservation: **91,000** people wrote to the ASMFC in support of leaving more menhaden in the sea. In line with its mission to manage public marine resources sustainably, the ASMFC should finalize the new amendment to the fishery management plan by October 2012.

It is important that the Menhaden Management Board:

1. **Implement immediate catch reductions that will achieve the TARGET in 3 years or less**. *The sooner we restore menhaden abundance, the sooner it will benefit the ocean's many predators and the east coast fisheries that depend on the commercial and sport fish that need menhaden to thrive!*

2. **Remove the 10-year rebuilding timeline as an option**. *It's a slap in the face to the public, who have already waited a decade for the ASMFC to take action to restore menhaden, to be asked to wait another 10 years!*

3. **Set a total allowable coast-wide catch, with at least a 75% probability of achieving the target within the designated time frame.** *Menhaden must be restored throughout its historical range. There is too much at stake to take chances with recovery!*

In addition

- Timely, comprehensive catch reporting must be in place to administer the coastwide quota.
- The recreational fishery should maintain de minimus status, as long as the fishery continues to catch less than 1 percent of the total.
- States that wish to apply for de minimus status must be subject to rigorous monitoring and applicable limits, beyond which they will no longer quality for de minimus status.
- The ASMFC should call for complimentary management measures to be implemented in federal waters (EEZ). The United States EEZ is the largest in the world. Menhaden management must be extended to these waters to ensure conservation of this crucially important forage species.

Overall, the ASMFC include as many practical options as possible in the Amendment, except for the absurd 10 year timeline to meet the target, and it should take action immediately, such that new management measures are implemented for the 2013 fishing season.

Respectfully,

Paul Eid

Capt. Paul Eidman
Menhaden Defenders
9 Williamsburg Drive
Tinton Falls, NJ 07753

paulyfish@reeltherapy.com

Delaware public hearing.
March 28, 2012
12 attendees (2 DNR staff)

I represent a small community and I am worried about the recreational and commercial (shellfish and menhaden harvesters) harvesters from our community. Our county records show that we are 40% impoverished and have been for the last 3 years. I am concerned about the economic impacts these measures may have on our community. The document states that potential reduction in workforce is proportional to the cuts in the fishery, this would be devastating to our community that is already impoverished. You are able to keep a rockfish for most of the year 28" or less. I cannot send a 6-10 year old child to go get a legal fish in our waters but I can send him in to get a check for food stamps. They can take money from a state resource but they cannot take a food resource from our state waters. This is a sad story in my town. With this reduction you are talking about impacting more of our community both people and the shellfish industry.

Center for the Inland Bays Comment: Our comments are consistent with the one's we made in the fall. We would like any measures that are put in place to minimize the impacts to the bait fishery because of the implications to the DE crabbing fishery most importantly as well as other commercial industries.
The longer the cuts are spread out it will allow for easier economic impacts on the community. We know there are problems and we want to have as many fish as possible but we do not want to destroy livelihoods doing it.

In favor having a de minimis plan for the bait fishery.

Atlantic Menhaden PID for Amendment 2 for Public Comment

Atlantic States Marine Fisheries Commission
March 28, 2012
Delaware

-- PLEASE PRINT CLEARLY --

Name	Company/Organization	City, State
Andrew MANUS	Delaware TNC	Clayton, DE
JEFF C. TINSMAN	DE DV F&W	LITTLE CREEK, DE.
INGO FLEMING	NOAA	CAPE MAY, NJ
Roy MILLER	DE CTR. INLAND BAYS	LEWES, DE
JACK LEEATES		REHOBOTH D.E
RICH KING	Delaware Surf Fishing	Millsboro, DE
Kristen Cavoli	Herring Alliance / PEW	Philadelphia PA
Craig Pugh	Mayor / Leipsic	Leipsic, De.
LEONARD VOSS	WATERMAN	SMYRMA DE
STEW MICHELS	DE DFW	DOVER

Maryland Public Hearing
March 19, 2012
20 attendees (2 commissioners, 2 MD staff)

Report by the late Charlie Hutchinson, [See written comments MD#1].

John Williams Chesapeake Bay Foundation [See written comments MD #2].

Comments by a commercial pound netter in the Chesapeake Bay. MD has 35 active pound netters that set in 25' of water depth (inshore waters). Alewives (referring to menhaden) are biggest catch. They are forced to throw back black drum, shad and river herring. They can only catch menhaden and rockfish. Purse seining is not allowed in MD waters. If there is any reduction to pound netters it should be achieved over 10 years. Menhaden are important bait, and never seen ecological reference points based on multispecies assessment that takes that into account.

Comments by a commercial pound netter in the Chesapeake Bay. Pound netting for 35 years, and they have lost more than they can handle. They are on quota with rockfish, trout, and can only catch three other species without limits (including menhaden). There pound nets are stationary nets, so keep that in mind. He lives in a rural area with 5 packing plants and 1 grocery store, works on the water and he is the 5th generetaion. There is nothing left to take, at 59 years old he has no other job. He loves his heritage. Look at how fast quotas are being caught in rockfish. Last year the main diet to catch rockfish was spot. The year before last there was a spot die off, and now they (fishermen) can catch rockfish because there is not as much spot. Rockfish is not just interested in menhaden, the species is opportunistic and will eat anything. Grandfather was a poundnetter. Now he has to throw everything overboard, you are taking away the last species they can take. All the lobbyist are killing the small guys who don't have any other jobs. Dorchester is poorest county in the state. What are the crabbers going to do for bait? Are they going to use clams? Where does it stop. People are getting tired of it. What do they get back – nothing. He is tired of never getting anything back.

Comments by a 4th Generation watermen. Increased pressure on menhaden is not going to happen in MD. With poundnetting it is something that has to be passed down. They don't have the luxury of being mobile. Learning curve is much steeper now. The price of everything has gone up for all materials, making poundnetting more expensive. Have to register poundnetting sites with DNR, people who are not fishing are not going to come out of the woodwork. You are stable at a level of poundnetters, and that's just the way it's going to be. The poundnetters can't move around, but the purse seine industry has options to go elsewhere. The Louisiana Crawfish Fishery uses menhaden for bait as well – that needs to be considered.

Capt Scott Todd. All fishermen spoken before are actual poundnetters. He is a crab potter. As everyone has said they are under so much pressure from restrictions and cost. If they are forced

to have less menhaden for pots, they are going to have trickledown effect. No one is getting rich at this. They have been doing this forever, and everytime they he turns around he is going to these public hearings. Association president is wondering when enough is going to be enough. He questions how accurate the science is. It is such a challenge to count every fish, how reliable are those numbers. He thinks that the reduction industry takes a large portion. He wakes up every morning looking for funds to stay in business. The watermen are looking to stay in work and not have to find other jobs.

Bob simmons, concerned public official. When he retired he thought he would work in commercial fishing industry. He had been reading commercial fishing news. He has a high respect for all those who commented tonight. He wants to completely agree with Charlie Hutchinson's comments (see written comments MD #1). He highlighted that they must reduce the catch, and must realize the only way to stay alive will be to curtail the harvest. The impacts of economics to the most people should play a large role. Bait fishery should benefit the most from any regulations. This has worked in the case of rockfish and crabs, where you reduce the take the resource abundance then increases. Please move fast to do this for the benefit of everyone.

James Price – President CB ecological foundation [See written comments MD #3].

Ed Liccione representing CCA. [See written comments MD #4].

Tony Friedrich commented for CCA. Need to end overfishing in 2013, must be implemented by 2016 with a 75% probablility of success. Support putting in place full suite of commercial options except limited entry. No need for recreational measures, fishery is insignificant.

Atlantic Menhaden PID for Amendment 2 for Public Comment

Atlantic States Marine Fisheries Commission
March 19, 2012
Maryland

-- PLEASE PRINT CLEARLY --

Name	Company/Organization	City, State
✓CLINT WATERS	MSSA	CAmbridge, MD
✓ROBERT GEISLER	MSSA	WOOLFORD MD
✓John Page Williams	CBF	Annapolis, MD
✓Jason Wilson	"	Tilghman MD
✓Robert W Stam	WATERMAN	Tilghman MD
✓HARRY Powley	FISHERMAN	Fishing Creek, MD
✓Burl Lewis	Fisherman	Cambridge, MD.
✓Don Cochran	"	Easton, MD
✓ED KILDUFF	CCA MD/Fisherman	ROYAL OAK, MD
✓Capt Scott Todd	V.P. CBCFA	Cambridge MD
✓Jerry Jones	Fisherman	Tilghman MD
✓JERRY JONES SR	"	Tilghman MD
✓Bill MATTHEWS	"	EASTON MD
Kelley Allen	Star Democrat	Easton, MD
✓BOB SIMMONS	CONCERNED PUBLIC OFFICIAL	CENTREVILLE MD
Tom Leigh	Miss. River Keeper	Easton, MD
✓JOSEPH KROART	MOAC	Baltimore MD
✓James Price	CBEF	Easton, MD.
✓Ed LICCIONE	CCA MD	QUEENSTOWN, MD
✓TONY FRIEDRICH	CCA MD	Grasonville, MD

MD #1

MENHADEN MUDDLE #

This version of the muddle series is devoted to the issue of allocation. Now that it has been firmly established that the harvest will undergo a substantial reduction, decisions will be required to determine who gets what portion of the allowable catch. The exact amount of reduction will not have been established when this is written. Irrespective of the final numbers, which await the 2012 stock assessment, it is not too early to begin to analyze the factors which need to be considered in the allocation determinations. During March and April the public will be asked to comment on various aspects of new management measures, and allocation is one of the major factors that have to be dealt with.

Starting with some very broad strokes, an attempt will be made to determine what the best course of action is to minimize economic and employment fallout from the reduction in harvest. The bait industry is essential to the seafood industry as a whole. While there are alternative baits, many of the other species are in short supply also, and since menhaden are relatively cheap if alternative bait is available they will likely be much more expensive. Conversely, the products from the reduction industry can be obtained without resorting to menhaden. Here also their cost may be more expensive since the raw material for reduction is free.

The VIMS study of the economic value and jobs provided by the reduction industry is quite complete so we have a fairly precise idea of what can be expected to occur at various levels of production. Unfortunately we have no similar study of the bait industry, but there is enough information available to make rational judgments. For purposes of this exercise the bait business will be considered only as supply to the lobster and crab industries.

The operation at Reedville Virginia is the only facility to process and sell Atlantic menhaden products. As such, its sales amount to $60,000,000 per year as noted in the VIMS report. Additional economic activity resulting from the business in Virginia amounts to an additional $20,000,000 for a total economic impact of $80,000,000. The Omega facility employs, in season, about 300 people between the plant and those on the vessels. It is estimated that the additional jobs created by the operation amount to another 219 jobs for a total of 519 jobs. Since the fishing time is limited to roughly 8 months, most of the factory and vessel jobs are considered seasonal. Non seasonal employment is about 115-120 jobs. The VIMS study assumes that job loss is linear and directly follows volume. This probably over estimates jobs lost, as some positions, probably the majority, will not decline directly with volume, but we'll use the published basis so as to be consistent with the how the bait industry is evaluated. On that basis, the loss in economic impact of a 25% reduction in harvest would amount to $20,000,000 and about 130 jobs would be lost.

Looking first at the bait industry as a whole, the sales value of menhaden as bait is about $18,000,000 per year with direct employment of 213 people. The landings are concentrated in 4 states. They are in order of descending magnitude New Jersey, Virginia, Maryland and Massachusetts. These four states comprise 96% of the harvest. The harvest of menhaden as bait is increasing because other bait species are declining and many now have catch limits which are insufficient to satisfy the market and menhaden have to make up the difference. Two principle markets for menhaden are the New England lobster industry and the Chesapeake Bay crab industry.

The New England lobster industry is a $900,000,000 business. According to the Maine Lobsterman Association it provides employment for 5300 fishermen and 400 wholesalers. Today the industry is increasingly dependent on menhaden for their bait. There is not a number I can quote that tells us what % of the total bait consumption is currently menhaden. But for comparison purposes let us assume 50% of the total is menhaden. Further, using a 25% reduction in availability, the economic outfall would amount to aboutn$112,500,000. This demonstrates the magnitude of the potential loss which alone can exceed the entire value of the Atlantic menhaden reduction industry. About 700 jobs would be at risk.

The crab industry in Chesapeake Bay has an economic impact of $250,000,000 annually. Tracking the job equivalents is more difficult. The two methods of catching crabs are potting and trotlining. Potters are heavily dependent on menhaden, trotliners are not. In Virginia virtually all the crabs are taken by potters. There are 1650 licenses and the assumption is that each potter has a helper, so 3300 jobs are at risk. In Maryland there are 4900 jobs with roughly 55% trotliners. Potters take about 65% of the catch by weight. So the number of jobs at risk, assuming a 25% reduction, amounts to about 250 and an economic loss of $31,250,000. The following table summarizes the data.

Annual economic impact	Omega	Bait industry	Lobster industry	Crab industry
	$80,000,000	$18,000,000	$900,000,000	$250,000,000
Number of jobs	519	213	5700	8200
Economic loss @25%	$20,000,000	$4,500,000	$112,500,000	$31,250,000
Potential job loss @25%	130	53	700	1075

While the writer has had to make some assumptions about employment numbers the obvious conclusion is that the bait industry and their customers have much more economic impact and jobs at risk. Consequently it should be given preferential treatment in allocating the finally determined quota. Historically the Reduction industry has landed 80% of the harvest and the Bait industry 20% .It might be convenient to utilize the historic percentages to determine allocation. However such a determination does not recognize the disparity in economic and employment fallout from such a determination. While I don't want to try to specify what the split ought to be, there is enough hard data here to establish directionally what should happen. One of the Board's responsibilities is to make decisions which are economically viable. Clearly there is a reason to promote maximum employment for U.S citizens

MD #2

CBF STATEMENT ON MENHADEN MANAGEMENT

ASMFC Public Hearing, Easton, MD, 3/19/12

Good evening. I am John Page Williams, Senior Naturalist from the Chesapeake Bay Foundation. Thank you for the opportunity to present this statement. CBF supports the following management options outlined in ASMFC's Atlantic Menhaden Public Information Document, in order to protect the ecological functions of these fish in the Chesapeake Bay and along the Atlantic Coast:

- **Issue 1: A** three-year timeframe is most appropriate for achieving the target F, to give the industry time to adjust to the limits while making the necessary reduction in harvest pressure. Any longer timeframe would be irresponsible to the fish, to the ecosystems in which they play such key roles, and to all of the people whose jobs depend on restoring the stock to a healthy level. For that reason, we urge ASMFC to remove the 10-year timeframe from the discussion.
- **Issue 2:** Managing this fishery to a target fishing rate will require an accurate and timely reporting system for the commercial catch. CBF suggests establishing timelines and quality criteria for catch data from the bait fishery and letting the states determine how to meet them.
- **Issue 3:** Because it is so small, the recreational fishery should be considered *de minimus* in this rulemaking effort. Therefore ASMFC should not enact any restrictions for recreational fishermen.
- **Issue 4:** Regardless of which specific commercial management tools are used to implement it and how it is allocated, ASMFC should impose a total allowable catch on the tonnage of menhaden that can be caught annually in the commercial fishery.

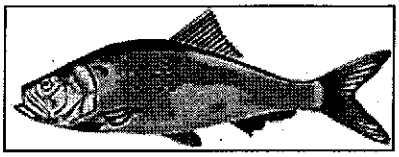
The Chesapeake Bay Foundation also notes the importance of the bait industry to the cultural fabric of Maryland's waterfront and to several dependent fisheries, so we urge sensitivity to it.

Finally, I would like to read some facts about the ecological roles of menhaden in the Chesapeake Bay, in the past and at present.

CREATURES OF THE CHESAPEAKE

ATLANTIC MENHADEN: DISAPPEARING AT AN ALARMING RATE

How important are **menhaden** to the health and economy of the Bay? Here are a few interesting facts.



Menhaden by the Numbers

70%	The amount of an adult rockfish's diet **historically** filled by menhaden.
8%	The amount of an adult rockfish's diet **currently** filled by menhaden. *The rockfish population in the Chesapeake Bay is showing signs of malnourishment and increasing mortality.*
75%	The amount of an osprey nestling's diet filled by menhaden in the **1980s**.
28%	The amount of an osprey nestling's diet filled by menhaden **today**. *Though the number of nests throughout the Bay region has improved, nestling mortality is as high as it was in the DDT era.*
65%	The annual removal of adult menhaden from East Coast waters.
2,500	The number of jobs supported by menhaden-dependent species in Virginia alone.
$236	In millions, the total amount fishing for menhaden-dependent species contributes to Virginia's economy.
8%	The current Atlantic menhaden population compared against historical levels.

Again, thank you for the opportunity to present this statement on behalf of the Chesapeake Bay Foundation.

John Page Williams, Senior Naturalist
Chesapeake Bay Foundation, Inc.
6 Herndon Avenue, Annapolis, MD 21403
410-268-8816, x2041, jpwilliams@cbf.org

MD #3

CHESAPEAKE BAY ECOLOGICAL FOUNDATION, INC.
P.O. BOX 1538
EASTON MD 21601
April 3, 2012

Michael Waine
Fishery Management Plan Coordinator
Atlantic States Marine Fisheries Commission
1050 N. Highland Street, Suite 200 A-N
Arlington, VA 22201

Dear Mr. Waine:

The Chesapeake Bay Ecological Foundation (CBEF) has been providing biological and ecological data concerning the decline of Atlantic Menhaden to the Atlantic States Marine Fisheries Commission's (ASMFC) Atlantic Menhaden Management Board (AMMB) since June 8, 1998, initially at the request of the Maryland Department of Natural Resources.

As a result of CBEF's testimony to the AMMB the ASMFC decided to conduct Atlantic Menhaden's first external peer review June 11, 1998. The peer review was completed in November 1998. Upon receiving the report of the Peer Review Panel in January 1999 the Board recommended that a full amendment to the current Fishery Management Plan (FMP) be developed. In 2001, following the peer review, Amendment 1 was passed, providing specific biological, social, economic, ecological, and management objectives for the fishery.

Revisions to Amendment 1 were made during the decade that followed which included Addendum 1 through Addendum 1V. These Addendums addressed changes in biological reference points, a cap on the Atlantic menhaden harvest and a research program for Atlantic menhaden in Chesapeake Bay. During this period the fundamental problem of ***ecological depletion*** of menhaden (insufficient numbers to provide adequate prey for dependent predators) remained unresolved and the population continued to decline while the goals and objectives of the new and revised FMP were not achieved.

Since 2004, CBEF, with initial assistance from East Carolina University, has examined over 8,000 striped bass from the Chesapeake Bay and Atlantic Ocean along the Virginia and North Carolina coast. This ongoing study that includes a Predator/Prey Monitoring Program has focused on collecting data to help determine the size and numbers of Atlantic menhaden that are consumed by Atlantic coast striped bass. CBEF is currently working toward the goal of providing ASMFC with additional peer reviewed published papers on this study. This type of information is vital in determining predation mortality of menhaden in ASMFC's Multi-Species VPA Model. In fact, according to ASMFC fisheries scientists: "Model results demonstrate that, for menhaden in particular, and forage fish in general, quantifying predation mortality is an important part of effective assessments of forage fish, their predators, and the fisheries of both."

In November 2011, the AMMB approved Addendum V which establishes a new interim fishing mortality threshold and target. In February 2012 the AMMB approved the Public Information Document (PID) for Draft Amendment 2 which is intended to initiate discussion on the new biological reference points recently adopted through Addendum V. In the PID ASMFC stated that the primary question on which the Commission is seeking public comment is: **"How would you like the Atlantic menhaden fisheries to look in the future?"** CBEF would like to see Atlantic menhaden managed as a forage fish in which the ecological services they provide take preference over its exploitation as an industrial commodity. The purse seine reduction fishery should not be allowed to harvest immature ages 0&1 menhaden (nutritionally critical to non-migratory Chesapeake Bay striped bass) or harvest the spawning stock in the Exclusive Economic Zone. The ASMFC should manage the menhaden purse seine fisheries and require the states to submit management plans for the small bait fisheries that operate in their local waters.

In October 2012 the AMMB is scheduled to approve Amendment 2. **After fifteen years of testimony, debate, research and written comments the Board has not resolved the fundamental problem of *ecological depletion* of menhaden.** According to the PID under Issue 1: The new F reference points adopted by the Board are intended to be interim reference points. The ASMFC has not collected adequate up-to-date diet information necessary to quantify predation mortality on menhaden; therefore, the Multispecies Technical Committee has been unable to provide the Menhaden Technical Committee and the AMMB with the information needed to help determine the ecological-based reference points in time for inclusion into Amendment 2.

The PID addresses the problem of overfishing but fails to acknowledge the issue of *ecological depletion* and without additional information concerning the number of menhaden being removed by predators, the Board will be unable to determine if too many menhaden are being harvested. Therefore, substantial reductions in harvest should be taken immediately to achieve F target. In addition, the Board hasn't addressed the issue of what size menhaden to protect or when they should be protected to provide critical forage for Chesapeake Bay striped bass. ASMFC's claim, that overfishing is not occurring, doesn't mean there is adequate prey for dependent predators.

Although most of the public concern appears to be focused on the lack of forage for menhaden predators, the ASMFC hasn't provided any information concerning the health of the predators that prey on Atlantic menhaden. Also, the ASMFC hasn't provided the public with any information concerning the numbers of menhaden consumed by predators or the size and number of menhaden that need to be protected for ecological services. The ASMFC needs to develop a Predator/Prey Monitoring Program similar to CBEF's program to monitor the diet, health and migration of top marine predators to ensure self-sustaining populations of fish species along the Atlantic coast.

Attached is a CBEF report and additional comments relevant to the PID.

Sincerely,

James E. Price, President
Chesapeake Bay Ecological Foundation

CHESAPEAKE BAY ECOLOGICAL FOUNDATION, INC.
April 3, 2012

ATLANTIC MENHADEN DECLINE AFFECTS GROWTH, HEALTH & MIGRATION OF ATLANTIC COAST STRIPED BASS

RESEARCH INFORMATION AND COMMENTS RELEVANT TO ASMFC'S PUBLIC IINFORMATION DOCUMENT FOR THE DEVELOPMENT OF AMENDMENT 2 TO THE INTERSTATE FISHERY MANAGEMENT PLAN FOR ATLANTIC MENHADEN

An ongoing study by the Chesapeake Bay Ecological Foundation (CBEF) determined that low numbers of Atlantic menhaden have affected the growth, health and migration of Atlantic coast striped bass. Since 2004, CBEF, with initial assistance from East Carolina University, has examined over 8,000 striped bass from the Chesapeake Bay and Atlantic Ocean along the Virginia and North Carolina coast.

Diminishing striped bass numbers culminated in threatened species status in Maryland's section of the Chesapeake Bay (upper Bay) in 1984 and a fishing moratorium in 1985. In 1990 the Atlantic States Marine Fisheries Commission (ASMFC), which is responsible for the management of menhaden and striped bass, partially reopened the fishery in state waters and in 1995 declared striped bass fully recovered. Within the upper Bay a harvest cap was imposed for the first time and the 14" minimum size was raised to 18" (4-5 years of age). This size limit protected more than 90% of the immature female striped bass which historically emigrated to coastal waters and became ocean residents before reaching 18"; only re-entering the Chesapeake Bay on spring spawning migrations after reaching maturity. (This study has examined gravid females less than 28" caught in the upper Bay as late as July) Within ocean waters the minimum size was set at 28" to allow most females to spawn at least once before reaching legal harvest size. These actions resulted in a greatly expanded striped bass population, dramatically increasing predation on menhaden and bay anchovy. This high population of large striped bass, predominately females, has sustained the prey demand for all age classes of menhaden and adult bay anchovy at high levels since the mid 1990s.

During the early 1990s, coincidental with burgeoning striped bass predation on menhaden, adult menhaden were severely overfished off New England concurrent with intensive fishing by the purse seine reduction fishery (large scale harvest of fish for processing into products such as fish oil and meal) on sub-adults (ages 1&2) and adult menhaden (ages 3+) in the Virginia section of the Chesapeake Bay (lower Bay) and in ocean areas from New Jersey to North Carolina. The Omega Protein Corporation currently owns and operates the only remaining menhaden reduction fishery. This fishery, the largest on the Atlantic coast, competes with striped bass, fish eating birds and many marine predators for declining numbers of age 1+ menhaden. The excessive harvest of adult menhaden from New England waters coincided with chronically low reproduction of menhaden and the onset of health problems in Atlantic coast striped bass - the Bay's top predator. The age structure of menhaden has been unnaturally skewed toward younger fish and only a remnant population of fish older than age 4 exists even though menhaden can live for more than 10 years.

Responding to concern about depletion of menhaden in the Chesapeake Bay, the ASMFC established (2006) an annual "Bay harvest cap" of 109,020 metric tons on menhaden reduction fishery landings from Virginia Bay waters. This measure has been ineffective in reducing harvest since reduction fishery landings in the lower Bay since 2006 have averaged approximately 30% below the harvest cap.

Data collected by the CBEF study indicates that malnutrition in upper Bay striped bass is a consequence of *ecological depletion* (insufficient numbers to provide adequate prey for dependent predators) of ages 0&1 menhaden (less than 10") and bay anchovy, exacerbated by low numbers of other forage species. Studies of resident striped bass greater than 16" in Chesapeake Bay waters (year-round) and migratory striped bass greater than 28" in mid-Atlantic and Chesapeake Bay waters (late fall through spring) determined that in most years since 2005 menhaden constituted over 75% of their diet (by weight). In the Chesapeake Bay striped bass are the primary predator on menhaden from late fall through early spring.

Chesapeake Bay provides the principal spawning and nursery areas for striped bass. Historically, the upper Bay provided an ideal ecosystem for reproduction, survival and growth for high numbers of healthy striped bass. This natural productivity has deteriorated due to severe declines and fluctuations in populations of forage fish: primarily Atlantic menhaden, bay anchovy, river herring and spot.

Most striped bass greater than 12" aggregate in the main stem of Maryland's mid-Bay region from late spring through early fall. As a result of menhaden age distribution in the upper Bay during this time period, large numbers of menhaden over 10" (ages 2+) are available as prey for striped bass. Most age 0 menhaden (less than 6") inhabit lower salinity regions of the Bay and tributaries; while most age 1 menhaden (less than 10") have migrated out of the upper Bay by late spring and are less available as prey. Consequently, striped bass which can ingest menhaden over 10" usually have more body fat than striped bass which feed on smaller menhaden. From 2009 through 2011, ages 0&1menhaden (less than 10"), accounted for approximately 43% of the total numbers of menhaden landed within the lower Bay and nearby coastal waters by the menhaden purse seine reduction fishery. These sub-adult menhaden are crucial to the diet of the Bay's striped bass, and should be protected according to the ecological objectives in ASMFC's Interstate Fishery Management Plan for Atlantic Menhaden.

Body fat accumulated by adult striped bass is used for gonadal development as post-spawning fat indices are near zero for both males and females. Sub-adult menhaden are crucial for rebuilding body fat of post-spawned resident male striped bass during spring through early summer. This body fat helps sustain the health of striped bass during late summer through early fall when menhaden consumption is minimal and bottom dwelling prey dominates their diet. Most upper Bay striped bass exceeding approximately 18" in length consume few forage fish during summer months when water temperatures exceed the mid-sixties and consequently experience a significant loss in weight. During winter months striped bass approximately 18" or longer often ingest menhaden which exceed 50% of their body length.

In the upper Bay, during years of low abundance of age 0 menhaden and other forage species, the average weight of striped bass caught during the fall can be less than 70% of their historical weight – a level symptomatic of starvation. The weight of striped bass 14" to 18" caught in the Choptank River during the fall correlates with high and low year-classes of forage fish – primarily menhaden. Within the Chesapeake Bay, striped bass length-at-age and weight-at-length have decreased, a significant percentage of striped bass have mycobacterial infections and striped bass natural mortality rates have risen.

This study revealed that large numbers of striped bass greater than 28", predominately females, that historically migrated from summer habitat in New England waters during the fall to feeding grounds in coastal ocean waters off Virginia and North Carolina, now arrive in the upper Bay during late fall and remain through the spring spawning season - a previously undocumented event. This study also documented a significant increase in the population of mature and immature 18" to 24" female striped bass in the upper Bay. During the fall of 2010 and the fall of 2011 these females accounted for approximately 25% of striped bass in the 18" to 24" range: two times higher than the 12% average in 2008 & 2009 and four times higher than the 6% average in 2006 & 2007. Females in this size range normally inhabit ocean waters and are therefore protected by the 28" minimum size limit. However, within the Chesapeake Bay, striped bass 18" or longer can be legally harvested.

Diet analyses, body fat indices and the unprecedented shift in established feeding patterns by migratory striped bass indicate that menhaden and bay anchovy are *ecologically depleted* on striped bass coastal feeding grounds. Consequently, large numbers of migratory female striped bass 18" and longer now reside for extended periods of time in the upper Bay and compete with resident striped bass for various prey, primarily bay anchovy and menhaden of all sizes.

CBEF studies indicate that **increasing the supply of ages 0&1 menhaden through harvest regulations** would mitigate nutritional stress on Chesapeake Bay striped bass. **Seasonal and/or area closures of the Exclusive Economic Zone to menhaden harvest** would increase prey availability for migratory striped bass in coastal waters and enhance spawning stock survival of menhaden and bay anchovy. Optimistically, ASMFC decisions concerning Amendment 2 to the Interstate Fishery Management Plan For Atlantic Menhaden will include a multi-species approach that will help resolve the fundamental problem - *ecological depletion* of Atlantic menhaden.

STRIPED BASS SIZE VERSUS SIZE OF MENHADEN CONSUMED

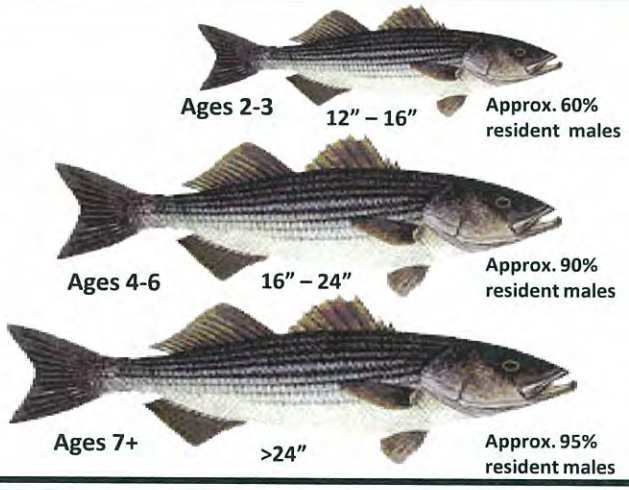
CHESAPEAKE BAY ECOLOGICAL FOUNDATION, INC

FIRST YEAR-ROUND ECOLOGICAL STUDY OF LARGE CHESAPEAKE BAY STRIPED BASS

CHESAPEAKE BAY: *Ecological depletion** of Atlantic menhaden in Maryland's section of the Chesapeake Bay (upper Bay) has lowered the carrying capacity for resident striped bass. Most striped bass >12" (ages 2+) aggregate in the main stem of Maryland's mid-Bay region from late spring through early fall. During this period, menhaden consumption by striped bass 12" to 24" is minimal since most age 0 menhaden less than 7" (<7") still inhabit tributary nursery areas and few age 1 menhaden (<10") have returned to Maryland's mid-Bay region from southern coastal migrations. From summer through fall millions of age 1 menhaden (<10") are caught in Virginia's section of the Chesapeake Bay and nearby coastal waters annually by the menhaden purse seine reduction fishery. Striped bass >24" have approximately 3 times more body fat than striped bass <24" and are in better nutritional condition since they consume menhaden >10" which are available in the upper Bay most of the year. Poor menhaden recruitment since the mid-1990s, increased predation by high populations of striped bass, a failure to implement ecologically sound management and overfishing have contributed to the *ecological depletion* of Atlantic menhaden. In the upper Bay, striped bass body fat levels, weight-at-length and growt have declined. Also, bacterial disease and lesions are prevalent in striped bass and natural mortality has risen.

**Ecological Depletion: Insufficient numbers to provide adequate prey for dependent predators*

MEASUREMENTS IN TOTAL LENGTH (TL)



Age-0 Menhaden approx. 99% consumed are less than 7"

Ages 0&1 Menhaden approx. 96% consumed are less than 10"

Ages 0+ Menhaden approx. 99% consumed are less than 15"

MENHADEN - CHESAPEAKE BAY AREA
2007 DATA - NMFS BEAUFORT, NC
2009 DATA – CBEF*

AGE	MEAN TL-INCHES	MEAN WT–OZ.
* 0	*5.0	*0.7
1	8.6	4.3
2	10.0	6.7
3	12.2	11.9
4	12.8	13.2
5	13.5	16.1

ATLANTIC OCEAN: *Ecological depletion* of Atlantic menhaden in mid-Atlantic coastal waters has lowered the carrying capacity for migratory striped bass >28". Many migratory striped bass now enter the Chesapeake Bay from late fall through spring and compete for menhaden with resident striped bass. Changes in winter distribution of migratory striped bass is supported by data compiled by the Cooperative Winter Tagging Cruise. Over the past four winters (since 2006-2007) captures of migratory striped bass on historic winter feeding grounds off N.C. and VA. averaged 531 per cruise compared to 2,212 during the previous 19 winters. Changes in established feeding patterns and declining body fat levels indicate menhaden are ecologically depleted on their historical coastal winter feeding grounds. Migratory striped bass >28" now over-wintering in the upper Bay consume more menhaden and have higher body fat levels than those that remain in historical coastal wintering areas.

Ages 0+ Menhaden approx. 99% consumed are less than 15"

The striped bass recovery following initiation of the moratorium is now threatened by the ensuing imbalance between prey and predator populations. Year-round ecological studies of striped bass >16" in the Chesapeake Bay and >28 in mid-Atlantic coastal waters determined that menhaden constitute over 75% of the diet (by weight) and are essential to the maintenance of healthy striped bass populations.

MD #4

Coastal Conservation Association
Positions on Menhaden Management
Amendment II to the Atlantic Menhaden Fishery Management Plan

"How would you like the Atlantic menhaden fisheries to look in the future?"

CCA POSITON: Restoring the menhaden resource to historic levels of abundance must be the primary management objective of the Amendment. Fisheries that can operate without depleting the overall abundance of the menhaden resource or fishing on immature fish, and which avoid concentrating effort in relatively small, ecologically important areas such as the Chesapeake Bay, must be governed by adequate monitoring and enforcement measure. Fisheries which cannot meet such basic criteria should be prohibited.

TIMELINE TO ACHIEVE THE F TARGET

Should the target F be achieved over one, three, five, ten years, or some other time frame?

CCA POSITION: We believe the one year and ten year options for reaching the target fishing mortality rate provided in the PID are both unreasonable, and should not be considered. The 3 and 5 year options should remain in the droft Addendum.

The target fishing mortality level is critical since, if fishing can be limited to that level, there is no likelihood that the menhaden resource will become depleted.

Does a 0.50 to 0.75 probability of achieving the threshold/target provide an appropriate level of risk?

CCA POSITION: We believe a 0.75 probability of achieving the threshold/target is appropriate. A 0.50 probability creates a situation where failure is as likely as success, and so should be removed from consideration.

If the F is reduced over a number of years, how much of a reduction should occur each year, or should the reduction be constant across all years?

CCA POSITION: Once the Threshold fishing mortality rate is reached in 2013 and overfishing ended, we would support management measures that reach the Target fishing mortality rate in 3 years with equal reductions in each of those years.

TIMELY AND COMPREHENSIVE CATCH REPORTING

How should the landings reporting system be improved to provide more timely and comprehensive catch information?

Should both dealers and fishermen be required to report?

Should fishermen be required to report data to help support stock assessments (area fished, effort, etc.)?

What electronic reporting options should be considered: Vessel Monitoring Systems (VMS), Interactive Voice Reporting (IVR), web-based reporting, or reporting through the Standard Atlantic Fisheries Information System (SAFIS)?

Should all state dealers be required to report weekly to be consistent with federal reporting requirements?

How should the reported data elements be standardized (e.g., landings, gears used, area fished)?

CCA POSITION: We have no expertise in the details of the commercial landings reporting systems and methods. As a general principle, we believe the menhaden fishery, both bait and reduction, should be treated like any other quota monitored fishery and have a data reporting system that is comprehensive, transparent and enforceable.

RECREATIONAL FISHERY MANAGEMENT TOOLS

Option 1: Status Quo:
Currently, no recreational fisheries management measures have been implemented.
Option 2: Size Limits
Under this option, minimum or maximum size limits would be considered to constrain the fishery to an F-based target or a quota.
Option 3: Bag Limits
Under this option, possession limits would be considered to constrain the fishery to an F-based target or a quota
Option 4: Season
Under this option, season closures would be considered to constrain the fishery to an Fbased
target or a quota
Option 5: Area Closures
Under this option, fishing would prohibited in specific areas. Area closures have the potential for creating protection for immature fish, spawning stock and the protection of ecosystem services.
Option 6: Gear Restrictions
Under this option, gear modifications wouldbe used to restrict the amount of catch (e.g., mesh size, net size).

Public Comment Questions: Should harvest be restrictions be implemented in the recreational fishery?

CCA POSITION: While the magnitude of the recreational harvest of menhaden is currently unknown, current estimates place it at substontially less than 1% of the commercial take. Using the ASMFC language below, we believe the entire recreational fishery could be declared de minimis:

....if, under existing conditions of the stock and scope of the fishery, conservation and enforcement actions taken by the state would be expected to contribute insignificantly to a required coastwide conservation program.

We believe recreational management measures for those that catch menhaden for personal use as bait are unnecessary.

The commercial take of menhaden for sale as bait in the recreational fishery should be governed by commercial management measures.

COMMERCIAL FISHERY MANAGEMENT TOOLS

Option 1: Status Quo

Under the current management program, the only harvest restrictions are listed in *Section 3.1* of Addendum IV to Amendment 1. *Section 3.1* sets an annual total allowable harvest for Chesapeake Bay reduction fishery of no more than 109,020 mt (the average landings from 2001-2005). This cap, which began in 2006, is in place through 2013. Over-harvest in any given year will be deducted from the next year's allowable harvest. In years when annual menhaden harvest in the Chesapeake Bay for reduction purposes is below the 109,020 mt cap, the underage amount shall be credited to the following year's allowable harvest. Under no circumstances can allowable harvest in any given year from 2011 through 2013 exceed 122,740 mt. Such credit can only be applied to the following calendar year's harvest cap and cannot be reserved for future years or spread over multiple years. Further, if no more than the underage amount in one year is credited to the next year's allowable harvest, the annual average harvest for 2011 through 2013 cannot exceed 109,020 mt.

CCA POSITION: We do not support Status Quo management.

Option 2: Trip Limits

Under this option, catch would be restricted using a maximum poundage allowance per trip or day. The Board would need to consider:

- If trip limits would be implemented by individual trip or by day because the possibility of multiple trips within a day exists or multi-day trips
- Implementation by fishery type
- Implementation of trip limits by gear type

- If trip limits would create discard mortality
- Designation of triggers based on harvest levels
- The spatial and temporal distribution of the stock to implement the most efficient trip limit

A benefit of trip limits, when used in conjunction with quotas, is that they provide some measure of controlling the catch rate. They also allow for the allocation of specific areas of the fishery based on performance. A negative aspect of trip limits is that they can create discard mortality with most fishing gears. They can be difficult to enforce and monitor due to the magnitude of the catch in the menhaden fishery.

CCA POSITION: We do support keeping Trip Limits as an option in the suite of commercial fishing management measures.

Option 3: Gear Restrictions

Under this option, gear modifications would used to restrict the amount of catch (e.g., mesh size, seine size). The Board would need to consider:

- Gear types used that would be suitable to modify (e.g., gill nets, purse seines)
- Gear selectivity studies that justify the use of gear modifications; for example, mesh size can be implemented to minimize the harvest of immature fish.
- Realized costs by fishery to modify current gears
- Area or season closure by gear
- Designation of allowable gears, could be for directed or bycatch purpose

A benefit of gear restrictions is that they are enforceable measures by gear type. Significant amount of research would need to be done before gear restrictions could be implemented.

CCA POSITION: We do support the keeping Gear Restrictions as an option in the suite of commercial fishing management measures.

Option 4: Season Closures

Under this option, the season length (fishing days) would be restricted to certain time periods. The Board would need to consider:

- Closures by fishery
- The temporal distribution of the stock to implement the most effective season closures
- Fishing prohibited on specific days of the week (days out)
- Removal of passive gear types during closures
- Recoupment of harvest during open season

A benefit of season closures is that they are easily enforceable. A negative aspect is that they can create menhaden bycatch and regulatory discards of menhaden in directed

fisheries for other species.

CCA POSITION: We do support keeping Season Closures as an option in the suite of commercial fishing management measures. For example, this measure could be used to move purse seines out of state waters in Virginia on the 3rd Friday in November to protect young menhoden as they leave estuaries and join the coastal stock, which was a standard management measure until 1987. Currently the area west of the Chesapeake Bay Bridge Tunnel is closed after this day and the rest of state waters are closed about 4 weeks later. This measure would reduce conflicts between the purse seine fishery and striped bass fishermen both commercial and recreational at a time between Thanksgiving and Christmas when Striped Bass are migrating from Northern areas and mixing with the Menhaden schools.

Option 5: Area Closures

Under this option, fishing would be prohibited in specific areas. The Board would need to consider:

- The spatial distribution of the stock to implement the most effective area closures (e.g., consideration of nursery areas)
- Recoupment of harvest in open areas
- Enforcement of areas closed

Area closures have the potential for creating protection for immature fish, spawning stock and the protection of ecosystem services, meaning the benefits that menhaden provide to ecosystem functions such as a food source for other species. A negative aspect is that they can create discard mortality of menhaden bycatch in directed fisheries for other species.

CCA POSITION: We do support keeping Area Closures as an option in the suite of commercial fishing management measures, and view this as an especially important management measure. For example, it could be used to close shallow waters (less than 30 feet deep) to the use of purse seines, which would include most of the waters of the Rappahannock River. This measure will protect the juvenile menhaden and the critical nursery areas for many of the recreationally and commercially important estuarine species. The Rappahannock River is the only river on the east coast that still allows industrial fishing of menhaden.

Option 6: Quotas

Under this option a limit is set for the amount of fish allowed to be caught by year or season. The Board would need to consider,

- TAC
- Allocation

a) By fishery - guidance on how to set allocation (e.g. historical reference years)
b) By state or region - guidance on how to set
c) By state/federal waters
d) By gear - guidance on how to set
e) Transferability among entities allocated quota
f) Consider overage and underage of quota including payback of overages and

rollover of underages

- Catch shares, ITQ, IFQ

a) Allocation formula for ITQ, catch share, IFQ (i.e. historical catch, vessel size based, combination of these two, etc)

- Monitoring requirements
- Bycatch allowance

Quotas are the most direct method to manage towards an F target. When used alone, in its simplest form, a quota has potential to create a derby fishery. A negative aspect is that and they can create discard mortality of menhaden bycatch in directed fisheries for other species after the quota is met. Additional monitoring requirements would be needed.

CCA POSITION: We do support keeping Quotas as an option in the suite of commercial fishing management measures.

Option 7: Effort Controls

- Days at sea

a) Board would need to consider the number of days fished, vessel size, fleet size

b) By fishery, gear type, vessel type, state

c) Will require historical estimates of catch rates. If VMS is required, monitoring becomes expensive (especially for smaller vessels).

- Vessel restrictions (upgrades, size, capacity)

a) Board will need to consider vessel characteristics to define effort.

CCA POSITION: While we do support keeping some form of Effort Controls in the suite of management tools available to managers, we do not support the use of Days At Sea as an effort control measure.

Option 8: Limited Entry

Under this option, a limited number of participants would be permitted to fish for Atlantic menhaden. The Board would need to consider,

- Control Dates
- Entrance criteria (e.g., based on participation, demonstrated dependence on the fishery)
- Permitting system by state

Limited entry would give a fixed number of entrants and gear types for the fishery thus creating a known universe of participants. When establishing a baseline of entrants, it can be difficult to maintain fairness.

CCA POSITION: We do not support the use of Limited Entry as an effort control measure and believe this option should be removed from the suite of management measures.

PUBLIC COMMENT QUESTIONS:

Should different sectors (bait and reduction) have different management measures?

CCA Position: We believe these two fisheries, which can be prosecuted in entirely different manners, should be managed differently. The reduction fishery is one entity that lands all their menhaden in one location, Reedville, VA. The bait fishery ranges from large ocean going trawlers and purse seine boats to small pound net and gill net operations, which land their fish in many different locations, and sometimes not at all when menhaden are used directly from the catch gear as bait.

What other measures should be implemented to establish a more predictable fishery?

Issue 5. De Minimis Requirements

Background: Under the *de minimis* provisions of the ISFMP Charter, a state may be granted *de minimis* status (exempting it from certain, specified requirements by the Board) if, under existing conditions of the stock and scope of the fishery, conservation and enforcement actions taken by the state would be expected to contribute insignificantly to a required coastwide conservation program (ASMFC 2000). *De minimis* status could exempt a state from certain commercial or recreational measures, or monitoring requirements of a FMP.

Statement of the Problem: Amendment 1specifies that a state may be granted *de minimis* status if the Management Board determines that action by the state with respect to a particular management measure would not contribute significantly to the overall management program. The Amendment does not define *de minimis* criteria for menhaden. In general, other Commission FMPs use a one or two percent landings limit compared to coastwide total landings (or commercial and recreational landings separately).The Board may consider just commercial provisions for the commercial bait and commercial reduction fishery separately due to the magnitude of the landings in the reduction fishery relative to the coastwide harvest.

PUBLIC COMMENT QUESTIONS?

Should the Board consider *de minimis* criteria and should the criteria be specific to the commercial bait, commercial reduction and recreational fishery?

CCA POSITION: We support keeping de minimis criteria as an option in the management plan. As noted previously, the entire recreational fishery would be de minimis under these criteria, thus each states recreational fishery should be granted de minimis status.

Virginia Public Hearing
March 22, 2012
22 attendees

Frank Kearney CCA Virginia Chapter [See written comment VA#1]. Menhaden management is at a critical juncture. Overfishing must be addressed immediately. Menhaden abundance is at lowest level in 50 year time series, a series management problem. Want to end overfishing in 2013. Management measures must be in place to meet F target no later than 3 years (2016) with a 75% probability of success. They support the full suite of commercial management measures except limited entry. Don't see the need for recreational measures that comprise less than 1% of harvest.

Alan Henson from Omega and rockfish fishermen. Past few year rockfishing on radios he has heard it is hard to catch rock because there is tons of menhaden. He doesn't think there is anything wrong with the stock assessment.

Shaun Gehan Representing Omega. Board discussed getting rid of 1 year time frame for target and agrees with that. Sticking with the 3, 5, 10 years to achieve the target is more appropriate.

Omega spotter. He has been looking at menhaden for past 15 years. Does not see a decrease in the stock and he has seen an increase in what he has seen. He thinks the numbers are fabricated, and does not know how menhaden can be counted and questions the science. He sees plenty of menhaden.

Monty Deihl from Omega speaking on behalf of himself. Wants to point out a few things. No one cares as much about menhaden as omega. Commercial fishing harvests 3% of this stock and natural mortality represents 71% which shows the importance of this species to the ecosystem. Back in the 1960's commercial harvest was significantly higher, yet the stock climbed to the great abundance in 1980s. It was noted that good environmental conditions are the reason. Commercial fishing has little impact on stock status. In 2008 overfishing was occurring by the slightest amount and the Board acted to protect menhaden disproportionally. Seems to just be about ending commercial fishing for menhaden. However, the commercial and recreational fisheries have coexisted for quite some time. To push for harshest reductions on commercial fishery is unfair because both fisheries are important. The omega protein plant has 55 million impact and it is important locally, regionally, and internationally. Many false accusations about bycatch, local depletion of the bay, and unhealthy nature of the bay – all untrue. Reedville will fish 9 vessels, the lowest in history, they are not there to fish this stock to extinction. He is not advocating for any specific options. He asks that all new data that are available be included in the stock assessment update and that it be done in a thorough way. The spotter pilots have seen more menhaden in the past 5 years than ever before. The stock assessment peer review suggested a coast wide study and omega funded an independent adult survey in the north. They know that menhaden are there, and not considering this data is unjust. Few states fish for

menhaden the stock is judged from catch and JAI's designed for other species, so use the independent survey. The omega fishing program has proven to support a healthy stock, families and a local economy.

Darren Lopez recreational. Fished both sides of ocean. In England it is fished out because the forage has not been protected. The big picture is that at one day if we keep taking as we do then it will get worse. Try to keep all the fish here.

Chris Moore Chesapeake Bay Foundation. Ecological and economic importance of menhaden. Historically menhaden provided 70% of diet of striped bass. Currently menhaden make up less than 30% of the diet of striped bass and other species and that is concerning. Economically menhaden provide over 2500 jobs and 236 millions in economic impact to the state and are worth protecting. However, menhaden population is currently at 8% of historic level.
Issue 1 – 3 year time frame. Urge ASMFC to remove 10 yr time frame as it is unreasonable length of time.
Issue 2 – accurate and timely reporting from both reduction and bait fisheries, leave it up to states.
Issue 3 – no fishery management measures for Recreational fishery.
Issue 4 – TAC coast wide for menhaden annually.

Jerry Benson. Troubled by discussion about the science. Once you question the science, he begins to believe the information provided by spotting planes for omega are telling the truth. Also concerned that stock assessment comes up with a completely different result than that seen by spotter planes/ Based on current fishing mortality rates overfishing has occurred for a long period of time, are the reference points correct? Coastal population has decreased 88%. ASMFC has received very strong comment for menhaden restorations (90K plus). Coastwide limit on landings along with coastal management measures to ensure no overharvest of the TAC. Therefore do the following, 1.) Implement immediate catch reduction to achieve target in 3 years or less. 2.) Remove 10 year time frame from. 3.) Implement management measures by 2013. The discretion between what the spotters are seeing and what the science says needs to be figured out.

Jack Austin. Anglers club. Fished for a long time and one of the points missing in assessment is the distribution. The menhaden are not in this area (mouth of Chesapeake Bay). When he goes striped bass fishing he checks the stomachs. He is not seeing anywhere near the menhaden in striped bass stomachs that he saw ten years ago. He is not seeing the schools of menhaden in the bay he used to see. He now sees the eating spot and other prey, and something is making them switch, quite possibly the low abundance of menhaden. He doesn't know exactly what is causing it but Reduction fishery is having an impact.

Jimmy Kellum. Menhaden fishing since 16, provides crab bait along coast. 20 years ago, they didn't even know what a pelican was, and then they planted them here and now they are alive and well on the Chesapeake bay. If there were not food here the pelican would die off. The switch in osprey food may be from competition with pelican. The whales know where the menhaden are and the whales are here. He is a realist, the numbers of menhaden catch are on the

rise, and there must be fish out there. There was a study done to the north, if you don't include that survey then that is unjust. If the stock assessment does not include a range of the entire coast then it is incorrect.

Commercial fishermen. Menhaden fishermen 15 years. Also recreational fishermen. If any striped bass fishermen were out in January, if you didn't see menhaden you missed them. All day long he looks at a depth recorder. Menhaden don't always show on top, so the depth recorder is key. He has a master's unlimited license and could work anywhere, but he is testifying that he has seen more menhaden now than ever before.

Atlantic Menhaden PID for Amendment 2 for Public Comment

Atlantic States Marine Fisheries Commission
March 22, 2012
Virginia

-- PLEASE PRINT CLEARLY --

Name	Company/Organization	City, State
Brook Kearney	CCA VA	Hampton, VA
[illegible]	OMEGA	REEDVILLE VA
John M Deihl	OMEGA	Reedville, VA
John A Hall	Omega	Reedville VA.
Jake Haynie	Omega	Reedville, VA
[illegible]	~~OMEGA~~	~~Reedville, VA.~~
Leo S Robbins	OMEGA	Reedville, VA.
[illegible]	OMEGA	REEDVILLE, VA
Ben Landry	OMEGA	
[illegible]	KDW	
Bill Corbett	OMEGA	Poquoson, VA
Kim Huskey	VA. SEAFOOD COUNCIL	YORKTOWN, VA
Forrest Brann	Omega	Va. Beach, Va.
Monty Deihl	Omega Protein	Reedville VA
Darren Lopez	REC. FISHERMAN	RICHMOND VA
Lucy Marion	—	RICHMOND VA
Chris Moore	CBF	Norfolk, VA
Jerry Benson	SELF	LANEXA VA.
Jack Austin	Ports. Anglers Club	Portsmouth, VA
Allan Gregoire	Ports. Anglers Club	Portsmouth VA
Jimmy Kellum	Kellum Maritime LLC	Weems, VA.
Ross Kellum	KELLUM MARITIME LLC	WEEMS, VA.

VA#1

CCA VA

Coastal Conservation Association Positions/Comments on Menhaden Management Amendment II to the Atlantic Menhaden Fishery Management Plan

"How would you like the Atlantic menhaden fisheries to look in the future?"

CCA POSITON: Restoring the menhaden resource ta histaric levels af abundance must be the primary management objective of the Amendment. Fisheries that can operate withaut depleting the overall abundance of the menhaden resource or fishing on immature fish, and which avoid concentrating effort in relatively small, ecologically important areas such as the Chesapeake Bay, must be governed by adequate monitoring and enforcement measure. Fisheries that cannot meet such basic criteria should be prohibited.

TIMELINE TO ACHIEVE THE F TARGET

Should the target F be achieved over one, three, five, ten years, or some other time frame?

CCA POSITION: We believe the one-year and ten-year aptians far reaching the target fishing mortality rate provided in the PID are both unreasonable, and shauld not be considered. The 3 and 5year options should remain in the draft Addendum.
The target fishing mortality level is critical since, if fishing can be limited to that level, there is no likelihood that the menhaden resource will become depleted.

Does a 0.50 to 0.75 probability of achieving the threshold/target provide an appropriate level of risk?

CCA POSITION: We believe a 0.75 probability of achieving the threshold/target is appropriate. A 0.50 probability creates a situation where failure is as likely as success, and so should be removed from consideration.

If the F is reduced over a number of years, how much of a reduction should occur each year, or should the reduction be constant across all years?

CCA POSITION: Once the threshold fishing mortality rate is reached in 2013 and overfishing ended, we would support management measures that reach the target fishing mortality rate in 3 years, with equal reductions in each of those years.

TIMELY AND COMPREHENSIVE CATCH REPORTING

How should the landings reporting system be improved to provide more timely and comprehensive catch information?

Should both dealers and fishermen be required to report?

Should fishermen be required to report data to help support stock assessments (area fished, effort, etc.)?

What electronic reporting options should be considered: Vessel Monitoring Systems (VMS), Interactive Voice Reporting (IVR), web-based reporting, or reporting through the Standard Atlantic Fisheries Information System (SAFIS)?

Should all state dealers be required to report weekly to be consistent with federal reporting requirements?

How should the reported data elements be standardized (e.g., landings, gears used, area fished)?

CCA POSITION: We have no expertise in the details of the commercial landings reporting systems and methods. As a general principle, we believe the menhaden fishery, both bait and reduction, should be treated like any other quota monitored fishery and have a data reporting system that is comprehensive, transparent and enforceable.

RECREATIONAL FISHERY MANAGEMENT TOOLS

Option 1: Status Quo:
Currently, no recreational fisheries management measures have been implemented.

Option 2: Size Limits
Under this option, minimum or maximum size limits would be considered to constrain the fishery to an F-based target or a quota.

Option 3: Bag Limits
Under this option, possession limits would be considered to constrain the fishery to an F-based target or a quota

Option 4: Season
Under this option, season closures would be considered to constrain the fishery to an F-based target or a quota

Option 5: Area Closures
Under this option, fishing would be prohibited in specific areas. Area closures have the potential for creating protection for immature fish, spawning stock and the protection of ecosystem services.

Option 6: Gear Restrictions
Under this option, gear modifications would be used to restrict the amount of catch (e.g., mesh size, net size).

Public Comment Questions: Should harvest be restrictions be implemented in the recreational fishery?

CCA POSITION: While the magnitude of the recreational harvest of menhaden is currently unknown, current estimates place it at substantially less than 1% of the commercial take. Using the ASMFC language below, we believe the entire recreational fishery could be declared de minimis:

....if, under existing conditions of the stock and scope of the fishery, conservation and enforcement actions taken by the state would be expected to contribute insignificantly to a required coastwide conservation program.

We believe recreational management measures for those that catch menhaden for personal use as bait are unnecessary.

The commercial take of menhaden for sale as bait in the recreational fishery should be governed by commercial management measures.

COMMERCIAL FISHERY MANAGEMENT TOOLS

Option 1: Status Quo

Under the current management program, the only harvest restrictions are listed in *Section 3.1* of Addendum IV to Amendment 1. *Section 3.1* sets an annual total allowable harvest for Chesapeake Bay reduction fishery of no more than 109,020 mt (the average landings from 2001-2005). This cap, which began in 2006, is in place through 2013. Over-harvest in any given year will be deducted from the next year's allowable harvest. In years when annual menhaden harvest in the Chesapeake Bay for reduction purposes is below the 109,020 mt cap, the underage amount shall be credited to the following year's allowable harvest. Under no circumstances can allowable harvest in any given year from 2011 through 2013 exceed 122,740 mt. Such credit can only be applied to the following calendar year's harvest cap and cannot be reserved for future years or spread over multiple years. Further, if no more than the underage amount in one year is credited to the next year's allowable harvest, the annual average harvest for 2011 through 2013 cannot exceed 109,020 mt.

CCA POSITION: We do not support Status Quo management.

Option 2: Trip Limits

Under this option, catch would be restricted using a maximum poundage allowance per trip or day. The Board would need to consider:

If trip limits would be implemented by individual trip or by day because the possibility of multiple trips within a day exists or multi-day trips

- Implementation by fishery type
- Implementation of trip limits by gear type
- If trip limits would create discard mortality

- Designation of triggers based on harvest levels
- The spatial and temporal distribution of the stock to implement the most efficient trip limit

A benefit of trip limits, when used in conjunction with quotas, is that they provide some measure of controlling the catch rate. They also allow for the allocation of specific areas of the fishery based on performance. A negative aspect of trip limits is that they can create discard mortality with most fishing gears. They can be difficult to enforce and monitor due to the magnitude of the catch in the menhaden fishery.

CCA POSITION: We do support keeping Trip Limits as an option in the suite of commercial fishing management measures.

Option 3: Gear Restrictions
Under this option, gear modifications would used to restrict the amount of catch (e.g., mesh size, seine size). The Board would need to consider:

- Gear types used that would be suitable to modify (e.g., gill nets, purse seines)
- Gear selectivity studies that justify the use of gear modifications; for example, mesh size can be implemented to minimize the harvest of immature fish.
- Realized costs by fishery to modify current gears
- Area or season closure by gear
- Designation of allowable gears, could be for directed or bycatch purpose

A benefit of gear restrictions is that they are enforceable measures by gear type. Significant amount of research would need to be done before gear restrictions could be implemented.

CCA POSITION: We do support the keeping Gear Restrictions as an option in the suite of commercial fishing management measures.

Option 4: Season Closures
Under this option, the season length (fishing days) would be restricted to certain time periods. The Board would need to consider:

- Closures by fishery
- The temporal distribution of the stock to implement the most effective season closures
- Fishing prohibited on specific days of the week (days out)
- Removal of passive gear types during closures
- Recoupment of harvest during open season

A benefit of season closures is that they are easily enforceable. A negative aspect is that they can create menhaden bycatch and regulatory discards of menhaden in directed fisheries for other species.

CCA POSITION: We do support keeping Season Closures as an option in the suite of commercial fishing management measures. For example, this measure could be used to move purse seines out of state waters in Virginia on the 3rd Friday in November to protect young menhaden as they leave estuaries and join the coastal stock, which was a standard management measure until 1987. Currently the area west of the Chesapeake Bay Bridge Tunnel is closed after this day and the rest of state waters are closed about 4 weeks later. This measure would reduce conflicts between the purse seine fishery and striped bass fishermen (both commercial and recreational) at a time between Thanksgiving and Christmas when Striped Bass are migrating from Northern areas and mixing with the Menhaden schools.

Option 5: Area Closures

Under this option, fishing would be prohibited in specific areas. The Board would need to consider:

- The spatial distribution of the stock to implement the most effective area closures (e.g., consideration of nursery areas)
- Recoupment of harvest in open areas
- Enforcement of areas closed

Area closures have the potential for creating protection for immature fish, spawning stock and the protection of ecosystem services, meaning the benefits that menhaden provide to ecosystem functions such as a food source for other species. A negative aspect is that they can create discard mortality of menhaden bycatch in directed fisheries for other species.

CCA POSITION: We do support keeping Area Closures as an option in the suite of commercial fishing management measures, and view this as an especially important management measure. For example, it could be used to close shallow waters (less than 30 feet deep) to the use of purse seines, which would include most of the waters of the Rappahannock River. This measure will protect the juvenile menhaden and the critical nursery areas for many of the recreationally and commercially important estuarine species. The Rappahannock River is the only river on the east coast that still allows industrial fishing of menhaden.

Option 6: Quotas

Under this option a limit is set for the amount of fish allowed to be caught by year or season. The Board would need to consider,

- TAC
- Allocation
  a) By fishery - guidance on how to set allocation (e.g. historical reference years)
  b) By state or region - guidance on how to set
  c) By state/federal waters
  d) By gear - guidance on how to set
  e) Transferability among entities allocated quota
  f) Consider overage and underage of quota including payback of overages and

rollover of underages

- Catch shares, ITQ, IFQ

a) Allocation formula for ITQ, catch share, IFQ (i.e. historical catch, vessel size based, combination of these two, etc)

- Monitoring requirements
- Bycatch allowance

Quotas are the most direct method to manage towards an F target. When used alone, in its simplest form, a quota has potential to create a derby fishery. A negative aspect is that and they can create discard mortality of menhaden bycatch in directed fisheries for other species after the quota is met. Additional monitoring requirements would be needed.

CCA POSITION: We do support keeping Quotas as an option in the suite of commercial fishing management measures.

Option 7: Effort Controls

- Days at sea

a) Board would need to consider the number of days fished, vessel size, fleet size

b) By fishery, gear type, vessel type, state

c) Will require historical estimates of catch rates. If VMS is required, monitoring becomes expensive (especially for smaller vessels).

- Vessel restrictions (upgrades, size, capacity)

a) Board will need to consider vessel characteristics to define effort.

CCA POSITION: While we do support keeping some form of Effort Controls in the suite of management tools available to managers, we do not support the use of Days At Sea as an effort control measure.

Option 8: Limited Entry

Under this option, a limited number of participants would be permitted to fish for Atlantic menhaden. The Board would need to consider,

- Control Dates
- Entrance criteria (e.g., based on participation, demonstrated dependence on the fishery)
- Permitting system by state

Limited entry would give a fixed number of entrants and gear types for the fishery thus creating a known universe of participants. When establishing a baseline of entrants, it can be difficult to maintain fairness.

CCA POSITION: We do not support the use of Limited Entry as an effort control measure and believe this option should be removed from the suite of management measures.

PUBLIC COMMENT QUESTIONS:

Should different sectors (bait and reduction) have different management measures?

CCA Position: We believe these two fisheries, which can be prosecuted in entirely different manners, should be managed differently. The reduction fishery is one entity that lands all their menhaden in one location, Reedville, VA. The bait fishery ranges from large acean going trawlers and purse seine boats to small pound net and gill net operations, which land their fish in many different locations, and sometimes not at all when menhaden are used directly from the catch gear as bait.

What other measures should be implemented to establish a more predictable fishery?

Issue 5. De Minimis Requirements

Background: Under the *de minimis* provisions of the ISFMP Charter, a state may be granted *de minimis* status (exempting it from certain, specified requirements by the Board) if, under existing conditions of the stock and scope of the fishery, conservation and enforcement actions taken by the state would be expected to contribute insignificantly to a required coastwide conservation program (ASMFC 2000). *De minimis* status could exempt a state from certain commercial or recreational measures, or monitoring requirements of a FMP.

Statement of the Problem: Amendment 1specifies that a state may be granted *de minimis* status if the Management Board determines that action by the state with respect to a particular management measure would not contribute significantly to the overall management program. The Amendment does not define *de minimis* criteria for menhaden. In general, other Commission FMPs use a one or two percent landings limit compared to coastwide total landings (or commercial and recreational landings separately).The Board may consider just commercial provisions for the commercial bait and commercial reduction fishery separately due to the magnitude of the landings in the reduction fishery relative to the coastwide harvest.

PUBLIC COMMENT QUESTIONS?

Should the Board consider *de minimis* criteria and should the criteria be specific to the commercial bait, commercial reduction and recreational fishery?

CCA POSITION: We support keeping de minimis criteria as an option in the management plan. As noted previously, the entire recreational fishery would be de minimis under these criteria, thus each state's recreational fishery should be granted de minimis status.

We appreciate the opportunity to provide our comments on this important step in the preservation of this vital resource.

Larry Snider

Chairman
Coastal Conservation Association, Virginia

North Carolina Public Hearing
Morehead City, NC
March 27, 2012
14 Attendees (8 public, 5 NC DNR staff, 1 NOAA staff)

Summary: Commenters were in favor of the majority of the harvest reductions should come from the reduction fishery. A shorter time of 3-5 years is preferred to reach the goals. The commenters were concerned about impact on the NC blue crab fishery that utilizes menhaden as bait if menhaden availability were reduced. Commenters do not want the bait fishery be reduced so that they can not keep operating. The commenters were not in favor of changes to the recreational fishery due to the insignificance of harvest compared to the commercial fishery. Commenters would like to have observers on the reduction fleet vessels, especially when trips are offshore. Some commenters would like to see the reduction fleet banned from NC state waters.

Individual Comments
Joe S. Marine fisheries commission: I like to see most of the reduction come from the reduction fishery. The reduction fishery serves only one industry and the bait fishery in NC serves a variety of fisheries. It supports the crab fishery and a variety of offshore bottom fisheries. To better benefit more of NC industries it is best to have most of the reduction fishery.

See a shorter time frame 3-5 years if there is that much of a reduction needed.

Local CCA chapter read written comments into the record. [See written comments NC#1].

Chuck: Like to see ASMFC look at the fishery wide reduction implemented in 2015. Take the majority of the reduction from the reduction fishery in order to keeping the bait fishery alive in NC and other states. But pressure on the herring fishery and they are facing a pressure that can not be sustained. Like to know what the reduction on the recreational fishery would be. Recommend the quickest reduction that we can have. We are looking at doing away with reduction fishing in NC state waters.

Chris Elkins: We need to look at what is best for the stock first and then the fishermen second. Harvest reductions done early to have a higher likely hood of success for the fishery. Then the long term harvest will be larger. Predator stocks will be larger. Need better for harvest for bait fishery. Do not see necessity for monitoring in the recreational fishery. I am in favor quotas, specifically quotas that would achieve the threshold and target. Our most important fishery is the blue crab fishery and menhaden bait is very important to that fishery. That fishery needs to be preserved here in NC. The lobster fishery is expanding into menhaden on the coast. Bycatch in the reduction fishery, it is documented that there are striped bass, red drum. We do not know the extent of the bycatch. There should be observers on the boats. Especially if they are going offshore. The dire straits of other fish Observers should be paid by Omega. Not in favor of bait observers at this time because smaller boats and nets. (8 agree with the observer comment)

Dale Petty. Like to see the new measures within the next 3 years. Since the reduction fishery is the overwhelming amount of harvest have a large majority of the reduction come from the

reduction fishery. Would like to see the reduction fishery eliminated in NC. Like to see the bait fishery survive. No reduction in the recreational fishery at this time.

Atlantic Menhaden PID for Amendment 2 for Public Comment

Atlantic States Marine Fisheries Commission

March 27, 2012

North Carolina

-- PLEASE PRINT CLEARLY --

Name	Company/Organization	City, State
Louis Daniel	NC DMF	More City N.C.
Ken Eiler	CCA	Harkers Island NC
Chuck Laughridge	CCA	Harkers Island, NC
Joe Shute	MFC	Morehead City NC
Seth Dearmin	Pew Environ Group	Raleigh, NC
Meredith Wilson	NC DMF	MHC NC
Joseph W. Smith	NMFS Beaufort	Bft, NC
Trish Murphey	NCDMF	MHC NC
Michelle Duval	NC DMF	MHC, NC
Bert Owens	CCA NC	Beaufort
Chris Elkins	Self	Gloucester, NC
Chris Batsavage	NCDMF	MHC, NC
Rocky Carter	RFMF	Swansboro, N.C.
Jeff Allen	F.M.F	Jax, NC
Dave Petty	CCA	Manteo, NC

NC #1

Coastal Conservation Association North Carolina Comments on Menhaden Management Amendment II to the Atlantic Menhaden Fishery Management Plan

March 27, 2012

Thank you for the opportunity to comment on Amendment II to the Atlantic Menhaden Fishery Management Plan. These are the comments of the Coastal Conservation Association North Carolina, the largest fishery conservation organization in North Carolina with chapters across the state. I am here representing CCA North Carolina.

Menhaden management is at a critical juncture - overfishing is occurring, ~~even under the old management targets,~~ and must be addressed immediately. Menhaden abundance is at the lowest level in the 50-plus year time series, ~~which, in our view,~~ and is a serious management problem.

We believe management measures must be put in place to reach the current fishing mortality threshold and end overfishing in 2013, and that management measures must be in place to meet the current fishing mortality target no later than 3 years later, in 2016, with a 75 percent probability of success.

Putting in place these basic fishery management measures, ~~which are common to virtually all managed stock~~s, will, at the very least, halt the decline in menhaden abundance and increase spawning stock biomass. Here in North Carolina Menhaden represent a significant forage fish for major recreational species like king mackerel, striped bass and other game fish. Our last menhaden reduction facility is closed and the only North Carolina based extractive menhaden activity is for bait. The North Carolina legislature is currently considering measures to protect menhaden in our state waters.

We strongly support putting in place the full suite of commercial management measures to reduce menhaden fishing mortality, with the exception of limited entry, but question the need for recreational management measures, which comprises less than 1 percent of the harvest.

We sincerely appreciate the opportunity to comment on proposed menhaden management measures. CCA will submit in writing our detailed comments on specific measures in Amendment II.

Thank you,

Coastal Conservation Association North Carolina

SC Menhaden Hearing
March 30, 2012
Presented to the SC Advisory Committee. (9 committee members, 14 members of the public)

Want to see de minimis added to the FMP. De minimis should be established separately for the bait and recreational fishery.

The recreational fishery is not significant. There should not be any measures put in place for the recreational fishery.

It is important that we look the problems the ecosystem is having on the menhaden population. While you can regulate the fishermen we many not rebuild unless the ecosystem conditions are good.

Georgia Menhaden Public Hearing

March 29, 2012

0 Attendees

SUBMITTED WRITTEN COMMENT OF ATL MENHADEN AMENDMENT 2 PID HAS BEEN REMOVED FROM THIS DOCUMENT DUE TO FILE SIZE

CONTACT ASMFC IF YOU WOULD LIKE TO RECEIVE THE SUBMITTED PUBLIC COMMENT