

PROCEEDINGS OF THE
ATLANTIC STATES MARINE FISHERIES COMMISSION
ATLANTIC MENHADEN MANAGEMENT BOARD

**The Francis Marion Hotel
Charleston, South Carolina
November 8, 2010**

Approved March 22, 2011

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1. **Approval of agenda by consent** (Page 1).
2. **Approval of proceedings of August, 2010 by consent** (Page 1).
3. **Move that the Menhaden Technical Committee provide guidance to the board on the use of the Multispecies Technical Committee alternative reference points and modeling options for the March board meeting** (Page 11). Motion by Dave Simpson; second by Douglas Grout. Motion carried (Page 11).
4. **Move to allow the technical committee to complete its work on the reference point alternatives and report to the board at the August meeting at which point an addendum could be initiated** (Page 11). Motion by Jack Travelstead; second by Patton White. Motion tabled on Page 15.
5. **Move to nominate Duncan Barnes to the position on the Advisory Panel** (Page 15). Motion by Patton White; second by Bill Adler. Motion carried (Page 15).
6. **Motion to adjourn by consent** (Page 16).

ATTENDANCE

Board Members

George Lapointe, ME (AA)	Tom O'Connell, MD (AA)
Pat White, ME (GA)	Lynn Fegley, MD, Administrative Proxy
Sen. Dennis Damon, ME (LA)	Bill Goldsborough, MD (GA)
Doug Grout, NH (AA)	Russell Dize, MD, proxy for Sen. Colburn (LA)
G. Ritchie White, NH (GA)	Jack Travelstead, VA, Administrative Proxy
Rep. Dennis Abbott, NH (LA)	Steve Bowman, VA (AA)
Bill Adler, MA (GA)	Catherine Davenport, VA (GA)
Dan McKiernan, MA, proxy for P.Diodati (AA)	Michelle Duval, NC, proxy for L. Daniel (AA)
Rep. Sarah Peake, MA (LA)	Bill Cole, NC (GA)
Robert Ballou, RI (AA)	John Frampton, SC (AA)
Rep. Peter Martin, RI (LA)	Malcolm Rhodes, SC (GA)
David Simpson, CT (AA)	Robert Boyles, Jr., SC (LA)
Dr. Lance Stewart, CT (GA)	Spud Woodward, GA (AA)
Rep. Craig Miner, CT (LA)	John Duren, GA (GA)
James Gilmore, NY (AA)	Rep. Bob Lane, GA (LA)
Pat Augustine, NY (GA)	Jessica McCawley, FL (AA)
Peter Himchak, NJ, proxy for D. Chanda (AA)	Sen. Thad Altman, FL (LA)
Tom Fote, NJ, (GA)	Bill Orndorf, FL (GA)
Gil Ewing, NJ, proxy for Asm. Albano (LA)	Steve Meyers, NMFS
Jeff Tinsman, DE, proxy for P. Emory (AA)	A.C. Carpenter, PRFC
Roy Miller, DE (GA)	Jaime Geiger, USFWS
Bernie Pankowski, DE, proxy for Sen. Venables (LA)	

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

Ex-Officio Members

Rob Latour, Technical Committee Chair

William Windley, Advisory Panel Chair

Staff

Toni Kerns

Nichola Meserve

Guests

Loren Lustig, PA	Chris Bonzek, VIMS	Alison Fairbrother, Pub.Trust Proj.
Lloyd Ingerson, MD DMR	Joe Moran, USFWS	Jason McNamee, RI DEM
John Poppalardo, NEFMC	Wilson Laney, MSFWS	Ken Hinman, NCMC
Matt Cieri, ME DMR	Ross Self, SC DNR	Bob Bowes, PRFC
Jeff Tinsman, DE F&W	Dennis Fleming, PRFC	Dave Ellenton, Cape Seafoods
David Pierce, MA DMF	Ron Lukens, Omega Protein	Tom McCloy, NJ F&W
Dick Brame, CCA	Ben Landry, Omega Protein	Charles Hutchinson, MSSA
Arnold Leo	Rick Schillaci, Omega Protein	Shaun Gehan, Kelley Drye LLP
Raymone Dane, CHOIR	Kristin Cevoli, PEW Group	Kyle Schick, VA
Patrick Paquette, FRA/MSBA	Sera Drevenak, PEW Group	
Rick Robin, MAFMC	J.T. Holland, PFC VA	

The Atlantic Menhaden Management Board of the Atlantic States Marine Fisheries Commission convened in the Carolina Ballroom of the Francis Marion Hotel, Charleston, South Carolina, November 8, 2010, and was called to order at 10:45 o'clock a.m. by Chairman George Lapointe.

CALL TO ORDER

CHAIRMAN GEORGE LAPOINTE: Good morning, ladies and gentlemen, we're going to start the Menhaden meeting. My name is George Lapointe. I'm the chair of the board. There are new agendas. Board members got my memo from the end of last week. There is one item of other business I have right now and that is an AP nomination from the state of Maine.

APPROVAL OF AGENDA

CHAIRMAN GEORGE LAPOINTE: Are there any other items of other business? Seeing none, is there any opposition to approval of the agenda? Seeing none, the agenda is approved.

APPROVAL OF PROCEEDINGS

CHAIRMAN GEORGE LAPOINTE: The next agenda topic is the approval of the proceedings from August of 2010. Any questions or comments about that? Any opposition to its approval. Seeing none, it is approved.

PUBLIC COMMENT

CHAIRMAN GEORGE LAPOINTE: The agenda topic is public comment. Members of the public can comment on the agenda topics at the appropriate time, but are there comments on other issues that are not on the agenda? Sir, please come to one of the mikes and introduce yourself.

Mr. CHARLES HUTCHINSON: My name is Charles Hutchinson. I represent the Maryland Saltwater Sport Fishermen's Association. At the last meeting I said that just once I'd like to speak at one of these meetings with a favorable comment. That day has arrived. A lot of people are pretty pleased that action to relieve the pressure on menhaden is moving in the right direction.

How that is going to proceed is the subject of today's meeting. There are, however, a few points that I would like to discuss. I note that representatives of the technical committees are on the agenda. I believe

there is and has been a Committee on Economic and Social Issues as they relate to fisheries.

The menhaden situation has significant economic and social consequences. Why is the committee charged with responsibility in this area not represented here today? Has that committee been requested to give input to the board? If not, why not? I would like to see some answers to those questions.

A second area of concern has to do with the addendum that was scheduled to be considered today for public comment. Much of what is discussed at these meetings is technically driven. Most of that is unintelligible to the general public. If you're interested in getting intelligent feedback from the public, the information in the addendum must be conveyed in a manner that is meaningful to those who participate in those meetings.

Specifically, the public needs to know what the effect on the fishery will be in terms of harvest restrictions or similar actions. Reference points in the abstract are not meaningful to Joe Sixpack. Economics come into play at this level as each party will have some feel as to what the effect revised fishing regulations are likely to have for them individually, but perhaps they won't much of a clue as to what the broader economic effects are. At what point in your process do you intend to deal with those factors? Thank you.

CHAIRMAN LAPOINTE: Thank you, Charlie. We haven't been dealing with the economics of the fishery in a direct way, as you mentioned, and that is why the CES has gotten together or we haven't gotten them together. Toni informs me there is a CES Committee member on the technical committee.

Your comments to use plain English in the addendum, Joe Sixpack may not be able to understand but this commissioner can't sometimes either, and so one of the discussions that we've had – and I think Rob may touch on it – is when we arrive at a suite of reference points to bring out to the public, I think one of the things we're going to look for is what it means in terms of a percent reduction in the fishery so that you can understand it and we can understand it as well. Other public comments? Seeing none, we will go to the technical committee report. Dr. Latour, welcome.

TECHNICAL COMMITTEE REPORT

DR. ROBERT J. LATOUR: Good morning, everyone. I have some good news and some bad news. The bad news is, as many of you are probably aware, through our investigations regarding alternative reference points an error was discovered in the code of the assessment model, and so we have had to sort of put the brakes on things a little bit and correct that error and attempt to understand what its effects are on the overall assessment.

The error is not a big deal in my view. When you have a program that has several thousand lines of code, sometimes this happens. The error was actually discovered just last week so we're kind of new in terms of – or very early in the process of fully understanding everything. Hopefully, I can convey the sentinel points here.

The technical side of it I'll give you and then I'll try to interpret it in a more lay fashion. It has to do with when the model was programmed to generate predicted catch for the reduction in the bait fishery. The model time step is March 1st to February 28th. That is the year inside the model, if you will.

You can think of fishing happening throughout the year such that you would want to generate predicted catch from the beginning of the year or you could think about it happening more in the latter part of the year such that you would want to generate predicted catch from the latter half of the year. We actually have both scenarios in the menhaden model.

The predicted catch from the pound net index occurs at the midpoint of the year. The predicted catch for the reduction in the bait fishery should have occurred at the beginning of the year. It did not. It was calculating based on the midpoint of the year, so the bottom line is an extra half a year of mortality was being applied to each cohort in the model, thus reducing its theoretical abundance inside the model-fitting exercise. The ramifications, as best as I can understand, is that if there are fewer animals available then the predicted catch generated from each cohort was lower than it should

When the predicted catch is lower than observed, the model compensated by predicting higher recruitments and thus higher abundances for the subsequent year classes. What we ended up with in the old version relative to the new is higher Ns and thus lower Fs. Let me walk you through kind of the pictorials of what the effects are.

I tried to code these in red and blue to keep that consistent, so the blue will be the original old version, if you will; the corrected is the red. This plot just shows predicted numbers of age zero menhaden. The pattern is virtually the same. It is just basically a scaling downward in the predicted abundance once this happier mortality has been removed; a similar pattern for age one-plus menhaden; again, red and blue coating, the old and the new.

Estimated abundance; that is, if you recall we measure abundance or SSB through total egg production. Here we have the old and the new model; the blue and the red; and the horizontal lines represent the fecundity targets from each respective assessment model. And I think more or less qualitatively you see the same results that the estimate of egg production hovers around the target, sometimes below, sometimes above.

But, again, the new model is shifting these predicted total eggs downward and accordingly so will the target reference point. This would be the same except now we have the threshold, so getting at this concept of historical overfishing or overfished status. You see the variability is much less in the newer version compared to the old and appreciable fraction of years right around the threshold, sometimes above.

Sort of taking from that figure the percentages, if you look at the two models in comparison, more or less the same proportion of years, the spawning stock estimate was below the target or the ratio of the two would be below one and a little bit of an increase in terms of looking at the overfished characterization. The ratio jumps up from 10 percent to 13 percent.

Fishing mortalities, the same kind of plot here; we have the targets in the horizontal lines for the respective versions of the model. You can see that the new model predicts F higher, as we would expect, compared to the old mode, but more or less the same proportion of times; in fact, exactly the same proportion of time, 98 percent. We're above the target.

If you look at the plots for the threshold, it is a little bit different, oscillating back and forth. The most notable I think with respect to the more recent years is that the new version does not consider the stock overfished at any point in time over the last ten years except the final year in the model.

The same kind of summary statistics; 98 percent of time F is over target or the ratio is over one; 57 and 59 percent of the time it is over the threshold. I think what is notably different is when those occur, and in the last ten or so years we're never over the threshold except for the most recent year.

Still the puzzling lack of relationship between fishing mortality and recruits that was preserved; the purple circles tend to support – well, I don't know if there is a pattern there. A high Fs we can get low recruits; at low Fs we can get low recruits; and intermediate Fs we can get high recruits, so there is this counter-intuitive kind of pattern going on, this lack of response in the model to fishing mortality as it is realized through future recruitment.

The old phase plot is here. We have seen this before. I pointed out the range of Fs was 0.6 to 1.4. That range has now changed and the ratio of the fishing mortality in the final year to the reference point was 0.97. The new version looks like that. Whereas, I said all of the years from '99 to the present or to 2008 were above the target but below the threshold, the range of Fs shifted up, but actually there is less variability, which was encouraging, because we were a little bit puzzled as to why the Fs were so variable, and now the ratios are last year's, 1.004. Hopefully, that is sufficient at this point. Admittedly we're about a week into knowing the error was there. I'll do my best to answer any questions before we move on to SPR type things.

CHAIRMAN LAPOINTE: Questions for Rob? Doug Grout.

MR. DOUGLAS GROUT: What are the plans for revising this assessment so that those changes are incorporated in it so that we can be using the new revised document?

CHAIRMAN LAPOINTE: That is something we're going to have to discuss. After we're done with questions, there are a couple of options that I'll let Toni talk about, and then we'll make a decision as a board. Jack Travelstead.

MR. JACK TRAVELSTEAD: I guess my question would fit in the same category, but I was interested in once the technical committee finalizes their look at this, will there be an additional peer review of some sort to take another look at it?

DR. LATOUR: Of course, I'm not totally in charge here, but my feeling is that this doesn't need to be – we essentially had a constant multiplied by

abundance cohort. That constant was different depending on the value of F each year; but you remove that constant and everything else is back to normal.

There is no breakdown in the theoretical modeling strategy here. There was no coding something that was completely inconsistent with the structure of the model. It is simply an oversight, I guess you could say, where there isn't an additional constant in there. You remove that constant and everything kind of scales differently.

MR. TRAVELSTEAD: Just an additional question; if you go back to the fishing mortality slide, are there confidence intervals about each one of those points?

DR. LATOUR: There are not any formal confidence intervals. That tends to fall in the area of uncertainty analysis, which it takes about two and a half days to get the bootstrap analysis to actually run, so we haven't had enough time to do it. We also realized that in light of where the 2008 fishing mortality reference points falls, we may want to revise our uncertainty analyses to be more I guess specific or different than what they were in the base model. We need as a group to think about how to characterize uncertainty a little bit more, and it will come in due time.

MR. DAVID SIMPSON: So my understanding is that the way the model had been run previously, you applied the harvest in midseason and a correction was applied at the beginning of the season. It seems like how you had it originally is more standard, that you assume it would occur midseason, what is the difference – some happens before and some after; why would it be important in this case to apply it at the beginning of the season?

DR. LATOUR: Midseason in our case is September with the fishery beginning in March, ramping up in the springtime. There are appreciable landings occurring in the early part of the year, which is not the case with the pound net index. My understanding is that is more of a summer/fall fishery. When fitting to that index, we used the midpoint of the year to generate catch there; but for the reduction and bait landings, there is a considerable amount in the early part.

MR. SIMPSON: Okay, so the harvest would be happening on average weights that are closer to the beginning of the year and numbers are closer to the beginning of the year. Thanks.

CHAIRMAN LAPOINTE: Other questions about the assessment change. Then the board's decision – and I would like to do it before we go on to the other part of your technical committee presentation – as to what we do. I'm going to let Toni talk to us and then we'll make a decision.

MS. TONI KERNS: Because there are not any theoretical changes to the model itself, what we're recommending is that we have the technical committee go back and look at the model, go ahead and make changes to all the appropriate sections of the report and bring the report back to the board. If there are any other changes that the technical committee finds when they go back and look at things, we can bring those changes to the board at the March meeting.

We would just go ahead and change the report for management within the current report that we have now, make it known so that everybody knows that report has been changed and let the board use that same report for management but not go through a peer review because the model itself does not change. It is just some other results from the model, but not all the results.

CHAIRMAN LAPOINTE: The other thing that Toni mentioned to me is, one, moving ahead without a peer review, which obviously is going to be faster; and given the discussion that Rob had, because the fundamentals are the same, it strikes me as the logical thing to do. The other decision is do we have the entire report rewritten with the changes as Toni talked about or just attach an addendum to it, for lack of a better term; not an addendum in the commission process kind of way, but just explaining what had happened.

My thought would be I would rather see the report changed because people will separate the report from the addendum – I know I would do that – and so they will just have a new complete document from which to use as a reference document. Does that make sense to people? I see heads shaking yes around the room; so unless there is objection we will move ahead with the revision of the assessment and a new document and no peer review. Any objection? Good, thank you. Any audience comments? I see no hands waving, no flares, so we'll go to Rob's next part of his presentation.

DR. LATOUR: We found this error because we couldn't get numbers to agree with the calculations of some of these alternative reference points using multiple methodologies, using the existing assessment model compared to the NMFS toolbox. We weren't getting the agreement so that is what a spent a great deal of time trying to sort out.

What I have for you is just a few slides on the SPR numbers that requested following our August meeting, I believe. To remind us where we are from actually in May when the first motion was passed, it cast a wide net regarding alternative reference points. These in our view were broken up into three kind of categories; the population SSB or fecundity relative to unfished level, the spawning potential ratio – this came kind of as a recommendation from the review – as well as alternative points using numbers instead of biomass; and then this sort of larger question of whether F is even a meaningful – and F-based reference point is even meaningful for the stock given the lack of response that we tend to see with some of the metrics; so a little bit on Part A with more to come at our next meeting.

I lifted this figure from a lecture I gave a while back, but it is just attempting to lay out what the SPR is doing. The figure to note is the monotonic decreasing going down from one to near zero. That is the SPR line. What is SPR? It is the ratio of the stock's ability to spawn at unfished or what we might consider virgin levels to various levels of fishing.

So if you turn F off and make Fzero, then that ratio is obviously one; unfished level spawning, the ratio is one. If you turn F on, we start removing animals, we're taking out some spawning potential, so that ratio should do go down. The rate at which it goes down are how steep it is depends on the underlying reproductive dynamics of the population.

That is what we're getting here. Some assumptions; these are equilibrium analyses; that is to say they're based on the understanding that the stock is in equilibrium. It's not likely the case, I'm sure. And some decisions we made as a group, which could be altered depending on what hypotheses you may want to form about productivity and reproduction, but the input calculations we used were the averages of those necessary over the entire time series for which we had data; so average fecundity from '55 to

'08; average natural mortality by age from '55 to '08; and catch weight at average selectivities by age from '55 to 2008.

That doesn't mean to say you couldn't redo this if you wanted to hypothesize a different reproductive contingent or a period within the time series. We expressed these in terms of two measures of F. The full F is your standard F in a given year; what is the fishing mortality rate in a given year, but not all age classes experience that full fishing mortality due to the selectivity of the reduction process, so one way to get around that is to look at an N-weighted kind of pooled fishing mortality rate and take the weighted average of age two-plus fishing mortality rates where the weighting terms are the abundances of those age classes.

This metric would incorporate the selectivity of the fishery, so you might be getting a better characterization of what the F experienced by each age class really are. And here is the take-home message; from the modified new model, the full F in 2008 was 2.28. The corrected average and weighted value was 1.26. You can see the respective SPR percentages for each of those metrics, both of which are above the 10 percent level, so in this context we're at an SPR level of less 10 percent.

I think that's all I had. I'm in the process of trying to put together sort of a meta-data of other values from other fisheries; but for clupeids lots of values are less than 20; some recovering around 10, so we're not too terribly far away from those that have been published in the literature, but admittedly I don't have that exhaustive list for you today.

MR. TRAVELSTEAD: Rob, you said one of the assumptions of the SPR models is that the population is in equilibrium, and you suggested that the population was not. If that in fact is true, what does that do to the outputs – how does that change things if in fact the population is not in equilibrium?

DR. LATOUR: It would probably depend on which direction it's going. I honestly don't have a good feel at this point, but if you're using average fecundities, for example, over the time series, if the stock is decreasing you might expect compensation in reproduction, so fecundity is maybe going up or natural mortality is going down to sort of compensate in increased survival.

I don't have a good feel for which direction they would go depending on which direction the stock might be heading. But, it is noteworthy that most of

these methods require the equilibrium assumption, and that is an obvious disconnect. I don't think many of our stocks are in equilibrium.

MR. SIMPSON: To that, I recognize that we manage a number of our stocks currently using SPR. Summer flounder is one of them and scup is as well. I would suggest that this technical committee communicate with the chair of the Southern Demersal Species Committee, Dr. Mark Terciero, on the approaches that they have used to address these kinds of concerns rather than discuss them in detail here. Typically you don't use fecundity over a 40- or 50-year period.

You use something more recent to reflect current conditions. Dealing with a partial recruitment pattern is important and they incorporate that. I think that would be important for this fishery because there are times when zeros or ones are exploited and you don't want to ignore that. I think that would be really helpful in terms of the commission and the kinds of things we're used to seeing for assessments and management to be reflected here so that it will be familiar to us and consistent in terms of how it is used across species we manage. Thank you.

CHAIRMAN LAPOINTE: Thank you, David. Other comments? I guess I have a couple of questions. I had sent a memo out to the board talking about the need for extra time both because of the change in the assessment and the technical committee's work. Rob, can you give us some idea about how you see the timeline moving forward because that is going to be obviously on the minds of the board members.

DR. LATOUR: The continuation of the SPR work along with tackling the next issue, which would be stock projections, I see us continuing to do that over winter. We're scheduling a technical committee meeting for some time in January, the middle of January, I think, to hopefully finalize some of that and also get updates on some of these other more medium- to longer-term analyses that you all asked us to convene.

I would say a substantial increase in the results will be available for the March meeting. My hope is that it will all be finished by summer. I'm not a hundred percent sure on that. We're handling our own workload as well as trying to work with the MSTC on the alternative reference

points that involve predation or multispecies; so kind of keeping those in parallel together has been – it has been happening, but it has been difficult to maintain communication and keep all of the issues in line. My hope is significantly more material for March and perhaps finished by summer.

MR. TRAVELSTEAD: Can you be a little bit more specific, Rob, in terms of what more will we have in the summer versus what we'll have in March.

DR. LATOUR: There I'm thinking that the simulation study that we've begun, if we can get the right amount of time devoted to it, that is the most intensive or that is the largest project on the list, if you will. That I don't see happening in time for March, but I'm hopeful that it will happen in time for summer. My hope for March is finish SPR, develop stock projections, configure and develop stock projections and also potentially I guess with Matt's help bring the MSTC work to some level of fruition.

MS. LYNN FEGLEY: Just to follow up on what Jack said, for March with the stock projections, can you just clarify for the board a little bit about what those projections would entail.

DR. LATOUR: We've actually begun doing them, but as you know they require assumptions about how you handle the stock-recruitment relationships among other things, and so we're kind of in the weeds about laying out options for those decisions. Once the technical committee agrees on those decisions, then we will develop stock projections, which will correspond to the fishing mortality rates at these various SPR levels to see what that might do to catch and other metrics that you would want to use to think about management. We haven't traditionally done projections for menhaden so it has been a little bit more involved in terms of configuring them.

MR. WILLIAM GOLDSBOROUGH: I don't know if this is a question for Rob or for you, George. We had on the original agenda for today consideration of a draft addendum with a range of SPR-based reference points. Because of the confusion about this glitch in the code and so forth, that got pushed back. If the SPR analysis will be done by March, does that mean that we're going to have that back on the agenda for that meeting?

CHAIRMAN LAPOINTE: I think that's a discussion we need to have, but we want to hear Matt's report first. Other questions or comments? Pete.

MR. PETER HIMCHAK: Mr. Chairman, I'm trying to understand the reference point SPR and you said the technical committee would have to come up with some assumptions. I mean, again, the SPR relationship of the environment to a year class trend is overpowering, I think, so the assumptions that you're making in order to do the projections is you're going to deal with some kind of spawner-recruit relationship?

DR. LATOUR: That's certainly an option. We have a very weak-looking one as you saw, but there is a fit to the spawner-recruit data. One option would be to use the function like the Beverton-Holt that levels out and use that to generate recruits in our projections. Another would be to not make that assumption and think about an average recruitment value each year modified by some level of error due to environment that can be correlated or uncorrelated if you think there are patterns in the environment. These are examples of the discussions we're having about how to configure these projections so that we can be thoughtful about I guess you could say this obvious breakdown in the spawner-recruit relationship.

CHAIRMAN LAPOINTE: Other questions for Rob right now? Then we will go to Matt Cieri's update on the Multispecies Technical Committee work and then we'll get into the discussion about our next steps as a board and timing.

MULTISPECIES TECHNICAL COMMITTEE REPORT

DR. MATT CIERI: Good morning. My name is Matt Cieri and I'm the Chair for the Multispecies Technical Committee. What I'm going to be talking to you about today is the effect of reducing menhaden F on predators and basically what happens to your overall food availability for striped bass, bluefish and weakfish and some of the things that MSTC can bring to bear as you guys walk through the addendum process.

The first task that you guys actually tasked the Multispecies TC was to look at the potential response of menhaden and predator populations if menhaden were fished at different F levels, F being F at SPR levels. Those aren't really available, as Rob has suggested, in time. We haven't had the chance to do some of the projections because the final Fs haven't been decided on by the Menhaden TC.

We do have some preliminary runs short term, using a various suite of modeling approaches, and we also have the ability to actually bring some of these short-term things to you in March once we decide on the F levels that are appropriate from the Menhaden TC. We also have a number of mid- and long-term options that you'll find in your supplementary material in the handout.

MS. TONI KERNS: It was in the supplemental materials and copies were on the back table.

DR. CIERI: So, anyway, we've got a number of different approaches that we can use to answer some of your questions about what fishing at some of these SPR levels might mean not only for the menhaden population but also for food availability for some of the important predators that I'm sure you all are really interested in hearing about.

One of those sort of approaches is to use MS-VPA, which you guys have heard me talk about for the last few years and was recently peer reviewed – well, not recently but peer-reviewed about four or five years ago. Some of the advantages is that it provides estimates of food availability and consumption rates for some of these important predators, striped bass, bluefish and weakfish, and it provides this stuff in sort of management language which you guys are all familiar with.

These are estimates of M2 or removals of menhaden as a result of predation mortality, but it also gives that in terms of F, in terms of numbers and in terms of biomass and the associated reference points for all that stuff. The caveat for this particular sort of approach is currently we don't have a feedback between menhaden consumption and striped bass or bluefish populations.

For example, more consumption of menhaden by striped bass does not in turn allow striped bass to grow bigger and fatter within our modeling scope, so that could be somewhat difficult to bear. It is also highly sensitive to what you do with recruitment. As you know and as you've heard Rob talk about, that recruitment function could be critical in any sort of projections that you with the MS-VPA, and we'll talk about that actually in a few minutes.

It is sort of limited by the diet data that we have at hand; and while we've brought together all the diet data that we have available, we understand that it's, of course, not the full suite of diet data that we would like in order to reduce some of our uncertainties about those particular consumption rates.

It also is in many ways contingent on the BAM Model, contingent on Menhaden Single Species Assessment because it uses and incorporates many of the same indices, the same catch, the same catch-at-age matrix, so it has all that stuff that is associated with the BAM Model. As a final sort of caveat is that the model hasn't actually been updated or at least the biomass prey items that serve as alternatives for menhaden haven't been really updated since 2006.

Another approach which some of you might be familiar with is Ecopath/Ecosim, and it estimates sort of a magnitude and direction of ecological interaction. Basically, if you put your fishing pressure here or there, which way do you move the ecosystem to and what other sort of non-target species might become more apparent within the diet structure.

It is very, very experimental at this point and revolves mostly around the Chesapeake Bay, so it is not exactly coastwide, but you do have the ability to have menhaden fishing mortalities varied. You can also look for other focal species within the model and look at other things that the MS-VPA can't including some of the lower trophic levels.

Again, it provides estimates of menhaden and predator biomass and reference points just like the MS-VPA. It does include that feedback between menhaden abundance and consumption by your predators and what happens to your predator population, whether your predator population has increased production because of increased consumption rates, and it includes a huge amount of ecosystem components that you can put in as covariates.

Again, some of the some of caveats include you need to build it as a coast-wide model because right now it only works for the Chesapeake Bay. As we know, not only do menhaden operate on a coast-wide basis but sort of many of their predators and alternative prey items. We also need to update the Ecopath/Ecosim with the most recent stock information for all of the predator species as well as the prey items.

Next we have a sort of biomass dynamic approach and we have two sorts of surplus production approaches that go along with this. One is using a scaler model, which basically uses some of the output from the BAM Model for

estimating M2s as indices, and then there is also the Steele-Henderson Model with a wide array of analysis, but it focuses mainly on the PRFC Pound Net Index and looks basically at predator-prey biomass ratios.

The advantages is that it provides estimates of menhaden fishing mortality and Z in biomass and the reference points just like the others. The B-scaler Model again treats the BAM Model biomass as an index and Ms can be translated into biomass. Also this model produces some potentially unrealistic growth estimates for menhaden.

The Henderson-Steele Model assumes that menhaden dynamics are driven pretty much by striped bass and dogfish as it is currently configured, and so that most of the removals come from striped bass and dogfish. Both assume sort of aggregate biomass. They don't partition things by age and so that can be somewhat problematic. As we'll get into a little bit later, age and the disparity between when your predation mortality happens and when your fishing mortality happens can be a fairly important thing to think about, particularly for menhaden.

The second task was to develop some alternative reference points that can account for predation on menhaden explicitly. I've already listed some of the short-term options, but these also include again those predator-prey ratios based on the BAM Model. As well as looking at some historic consumption and abundance from MS-VPA, you can get an idea of what your median consumption has been from the menhaden population and how right now what the terminal year looks in reference to that.

However, no matter what sort of approach we use, given some of the constraints as well as some of the time that you guys are looking for doing some sort of management action, you're going to need to probably set up something ad hoc as far as your threshold in an ecosystem approach. You're going to have to look at the history as best as we can give it to and decide based on historical rates what you might want to consider for the future as a reference point.

Some other mid- and long-term options include things like a stoplight approach. For those of you in the northeast, maybe you've considered or seen some stuff dealing with lobster and some other types of those approaches. In addition, sort of things such of recruitment triggers or predation triggers might be things that you might be interested in. You can sort of do an ad hoc ecological benefits target limit thing

based on some sort of precautionary principle derived directly from the literature.

There are some suggestions out there that you might wish to fish a forage species as something less than its natural mortality rate, for example, as well as some other rules of thumb that come along with doing this sort of work. Whenever we do all that stuff, we can bring that all together and see how each of those would look if we ran each of our sort of alternative modeling approaches and see how those would look in a projection standpoint as well as historically how they've been applied.

Just to give you some general thoughts and some general guidance to sort of sum here; basically decreasing F should increase your SSB. I mean, that is the whole point, but in the case of a forage species you have recognize that some of that increase doesn't really happen. Some of your surplus production ends up actually going into your predators' stomachs instead. That is one thing to keep in mind.

You have these higher removals of menhaden as a result of increasing your menhaden abundance because some of these removals are going into your striped bass or your bluefish or weakfish populations. Some of these increases in SSB may not be as apparent as you go through and do those projections.

The other thing is that the effectiveness of managing for either increasing your SSB for menhaden or for increasing your consumption, if that is one of the goals, is going to become very, very reliant on your stock-recruitment relationship, and we'll show you that in a second. If you think about it, you have sort of a different sort of a box approach; and as you go from early juveniles to mid-juveniles, age one and two, to adults that have your SSB, you have got this disjunct between predation mortality or when stuff gets eaten and when stuff gets fished.

They don't happen all at the same time, and so most of your natural mortality and predation mortality are occurring at your youngest ages, and this is something that we all intuitively know. Most of the fishing mortality actually happens at some of your older ages, mid-juveniles and up. For example, if your goal is to increase your consumption, which happens down here, by affecting fishing, which happens over here, the only way that you can link the two is

through the recruitment, so how you handle recruitment in any sort of projections and even the effectiveness of your management measures are going to be derived around whether or not that recruitment is actually apparent, whether it happened.

When you start removing the recruitment and if there is sort of this disconnect between your spawning stock biomass and the recruitment that comes from it, you may not see so much of a change in your management measures and in your goals. For example, we ran the MS-VPA under a number of different scenarios using some of the other estimates of different F levels from Alexis' earlier work.

As you can see, if you do a median recruitment and going back here, basically no matter how big your adult SSB is, your recruitment always stays the same when you assume a median recruitment; that's all you do. It is the same number year after year after year. What happens when you do this is that your consumption by striped bass doesn't really change, because remember the only thing that matters to striped bass is how many of those younger individuals are around; and so if you keep in the same number as the input, you get the same number that comes back out.

When you start assuming a stock-recruitment relationship, basically that as your number or as your spawning stock biomass increases you get more recruitment, in which case you get more striped bass food, the consumption goes up by quite a bit. Here we have the Beverton-Holt and if you assume a very different sort of a stock-recruitment relationship called Ricker, you get a much larger increase.

And how these increases play out at fishing at different levels of MSP is quite astounding. For example, note the scale change for the 15 percent MSP that ranges from zero to 150 percent. That is the increase. As you go to 25, this scale goes between zero and 700 percent; and then for 40 percent it goes between zero and a couple of thousand. We have to look at this in a little bit more detail, but you can see how dramatic changes in fishing at different levels can have very, very different results depending on which recruitment you assume.

Now, as somebody during one of the meetings said, we know that there is a high variability of recruitment associated with menhaden. We know we don't get the median recruitment every single year, but we also know that we don't get a very well-defined stock-recruitment relationship. The answer is probably

someplace in between, so a lot of this is going to hinge very heavily around your stock-recruitment relationship and how much error and how much modeling you want to put into that. That's it.

CHAIRMAN LAPOINTE: Thank you; questions for Matt? Jack Travelstead.

MR. TRAVELSTEAD: Matt, you have laid out quite a bit of work that you all are doing on this. How much of what you're working on will we have in March and how much will we have by this summer? I guess I heard from Rob that they will have a bigger package for us to look at this summer, and I'm wondering if that's the same with you or is this even further down the road than summer or –

DR. CIERI: No, no, summer is about – I mean, we've got all the tools in the toolbox that we need basically in order to do this work. What we're basically waiting on is to get some of the projections and some of the F estimates that come out of Menhaden TC. We're going to take a look at this. I ran 12 of those runs for the MS-VPA and that takes a little bit of work, but once you get those final numbers it is a matter of cranking through – there are a few things that we have to do and tweak, but we should be able to get you some stuff within this addendum as well for you to basically look at your options and see what that means as far as predator food goes.

MR. A.C. CARPENTER: Matt, you made the comment that the striped bass are eating the smaller fish, but it seems to me a number of years ago there was evidence presented that the preferred size of bait for striped bass was about one-fifth the size of the striped bass. When we're starting to see some really big striped bass, they're feeding on really big menhaden.

So, the zeros and ones, it may be predominantly that, but they certainly do feed on other species; and with something like bluefish, they don't necessarily consume the whole fish but they do take one bite out of it, and they're going to move on to the next one that is swimming. They're not going to fool with the one that is floating. How does all of that play into this model development?

DR. CIERI: A lot of it is. That was part of the way that the model was developed, and I will refer you to the peer-reviewed documents which

discussed in great detail. But, quickly, when you think about it, where is most of your striped bass population, in those big, older age classes or is it in your younger age classes, the ones that tend to eat mostly your zeros and ones menhaden. You put in size limits specifically for that reason, for example.

In other cases, one of the things you have to realize is, of course, striped bass, like menhaden, as they get bigger and older tend to move further and further north and in some cases encountering a wide variety of clupeids, including Atlantic herring and some other species as well. When you actually go through and you crunch the numbers and you look at the gut contents and you do those sort of scale-ups based on population sizes, you start realizing that much of your predation removals happen exactly as you would expect at zeros and ones. If you flip on the Discovery Channel, it is not usually the big, old male antelope that is getting it; it is usually that small, younger individual that gets eaten by the lion and the same happens here.

DR. LATOUR: Just to Jack's question, I agree with Matt's characterization that material could be to you in time for March maybe and certainly by summer. That is the MS-VPA related stuff. Having worked on the Ecopath Model for nine years, off and on, it basically would require reconfiguring that to represent the Mid-Atlantic coastline. There will be some more work involved there, and I'm not sure it is entirely ready for March.

DR. CIERI: Yes, maybe I didn't make that clear enough. The Ecopath/Ecosim stuff, that is a ways down the road. That requires reconfiguration of that entire thing for a coastwide, and that is why it is in the moderate to long-term category because it requires a significant reworking. The MS-VPA and some of the biomass dynamic approaches can be available in fairly short order, on the scale of months and not years.

DR. DAVID PIERCE: Matt, earlier on in your presentation I believe you indicated that menhaden are an important part of the diet of spiny dogfish. One of the models you cited indicated that seemed to be the fact. I'm wondering through the modeling that will be done are you actually going to be able to give us some estimate of the impact of spiny dogfish on the menhaden stock?

DR. CIERI: That is one of the suggestions and one of the modeling approaches that has been brought forward to the MSTC by one of its members. Yes, we have that sort of ability to take a look at – you

know, there is one analysis within our suite that we'll be looking at spiny dogfish and their impact.

DR. PIERCE: Okay, that's good to know. I didn't realize that menhaden made up a significant portion of the spiny dogfish diet. I know river herring does as well certainly sea herring where 60,000 tons or greater is the estimate of an annual consumption. I'll be interested in that particular piece of information in the context of where we are right now with our rebuild spiny dogfish biomass and dogfishes impact on the ecosystem that we love so much.

MR. THOMAS FOTE: I listened to A.C. Carpenter's comments about menhaden and the prey-predator relationship. I'm still a little confused because I've watched schools of menhaden and I've watched what is going on with striped bass, I've watched what is going on with bluefish, I've watched what is going on with dolphin, I've watched what is going on with whales.

Now, we've had in the New York Bight a good selection of larger-sized menhaden for the last couple of years. Of course, they're probably threes and fours and not the tens that I'm hoping for. The schools of bluefish, whether they're a pound and a half, will go and start ripping them apart and two pounds and really doing a job.

The striped bass will sit underneath that and that's what is eating all the pieces that they drop out. If you look at the schools of bass working of Montauk or you're working off Raritan Bay in the last couple of years, that is what mainly constitutes their diet and that is why you've seen a huge catch of striped bass in the Raritan Bay and the Delaware, just following the menhaden up there.

Yes, the juveniles make a lot of it but it takes one large striped bass on menhaden to digest a lot of poundage, and they do a lot. You ever gut them open and you'll find – and I do a lot of gutting open and I find ten or twelve menhaden in there and some of them are big. It always amazes me of the size of the striped bass that can swallow a four-pound menhaden, when it is a huge one, and all the striped bass is about nine pounds. This year, again, watching the dolphins and watching seals working the schools and watching everything else, and these are the big menhaden and not the small forage species.

DR. CIERI: And, again, part of it is taking a look at what the population does sort of on a yearly basis, on its day in and day out type of life cycle. For example, with the exception of this week, I love steak, absolute love steak; but if you rip me open on any given day of the week, you're probably going to find pasta rather than steak. I can't afford steak every single night nor do I encounter it every single night with the exception maybe of this week.

So in a lot of cases what you will find in a predator's stomach on a day-by-day basis, what it consumes the most of is going to be a function of what it actually ends up encountering on a day-to-day basis. And while it may queue in certain choice morsels for certain periods of time, what becomes the most important thing is what it eats on a continuous basis day after day after day.

Yes, in many cases it is certainly possible that large striped bass do consume menhaden. If you go through some of the MS-VPA report, you will see that there is actually – there has been a fairly high level of consumption of some of the older menhaden within our modeling structure; however, in order to have that consumed, you have to have a pretty big striped bass. While there are a good number of very large striped bass out there, when you start talking about actual removals times out by numbers of different fish, you recognize that fish that are pound for pound tend to eat more because they have a higher metabolism because they're growing faster. Then you start running through the calculations and you can see the difference. And, again, all of this stuff is within the documentation that was presented to SARC when this was approved.

CHAIRMAN LAPOINTE: I'm going to jump in before Jack Travelstead and ignoring the workplace rule implications of tearing Matt's stomach open, what I'm struggling with is how – not the accrual parts of the MS-VPA – how we tie it back to the work of the technical committee and the board's work on new reference points, and so we're going to have to discuss that in a little bit. What work are they going to do between now and next summer as the date that has been discussed and what parts of the Multispecies Technical Committee work we can incorporate in a meaningful way when we look at new reference points? Jack.

MR. TRAVELSTEAD: Just one additional question and it has to do with the current assessment goes through 2008; it uses data through 2008; and now you're going to have to go back because of this error and redo some additional calculations. My question

is, is there any value, while you're doing that, in adding the 2009 information that I think we already have and turning the crank again to see what that shows; or, is that too much work and does that detract from all this work you're doing on reference points?

DR. LATOUR: There is value, of course, but, yes, the question is whether it is a good use of what we have now in this very limited time amongst analysts. A preview of other business is we're in the midst of a change in the baton, so to speak, of the lead analyst for the menhaden assessment, so we're trying to bring someone up to speed as someone else is migrating away.

Adding another year involves a fair bit of work and it is redoing the entire model. I don't know as though it would change all that much in the grand scheme of things and it would certainly take away from our ability to make progress on the alternative reference point's question. It seems like to me that is more pertinent now than another year of data in the model, but I guess that is for you all to decide.

MS. FEGLEY: I'm still sitting here trying to put all this together, so it seems to me that what has happened is with the correction in the assessment what we now have is a terminal year where we're over the fishing threshold. We have a management framework that has a fishing mortality target, which we haven't hit very often at all.

We have a threshold and then we have the projections produced by Matt and the various levels of MSP; so to get to George's point a little bit, I think it would be interesting for the board to see what it would take for – if we reduced harvest to the target that we already have, we have a target, and most species that we manage we manage to the target. We don't manage to the threshold; we manage to the target.

So, if we were to reduce harvest to the target and you run through some of the – what level of MSP would that put us at, what level – I think right now what you said is that we're fishing at something less than 10 percent; but we reduced harvest to the target, what would it take to get there, what level of MSP would that put us at, and then what would that look like if you run through some of the projections that you did not with the various assumptions of recruitment?

You know, it concerns me a little bit recognizing that we have this failure of response in the population with fishing mortality, I would hate to think that saying that the population isn't responding to fishing mortality is a reason not to manage to the target, which we do for most of our species.

MR. SIMPSON: I think it seems like most of the questions for Matt are done and to help move this along **I would offer a motion that the Menhaden Technical Committee provide guidance to the board on the use of the Multispecies Technical Committee alternative reference points and modeling options for the March board meeting.**

CHAIRMAN LAPOINTE: I have a motion; do I have a second? Thank you, Doug Grout. Discussion on the motion? Rob, any comments? It seems fine, he said, that's good. Any discussion? Any audience members want to comment? Any objection to the motion? **The motion carries.** If there are no other questions, I guess a discussion of possible management actions, which is on the agenda, is largely one of timing at this point, isn't it? Toni, do you want to lead us into the conversation.

DISCUSSION OF POSSIBLE MANAGEMENT ACTIONS

MS. KERNS: At the August meeting the board initiated an addendum to consider a range of percent maximum spawning potential reference points to include the 15, 25, and 40 percent MSP to come forward at this meeting. If the board is still looking for a timeframe that is close to what you had asked for at the August meeting, there are two options that we could look at.

The first option would be to just have a simple addendum that looks at just these percent MSPs that we could put together and then the board could review it via correspondence and do a fax vote and then be taken out for public comment over the winter. The second option, we could include a percent MSP information as well as possibly some of the additional alternative reference points that are being worked on either through the MSTC or the TC and also include the harvest projections as well.

We would bring that draft addendum to the March meeting for approval for public comment at the March meeting and to allow for public comment in the spring and then reviewed at the August board meeting. Those are sort of two timeframes that would match what the board had looked at in August.

There may be other timeframes that you're now looking at. Those are the two options right now.

CHAIRMAN LAPOINTE: And before I go to board members, I guess the third option, given the fact they said they need until summer, would be to use the August meeting as a target for approving the addendum for public hearing; right?

MS. KERNS: It you want to include all the alternatives, then, yes, we would wait until August.

CHAIRMAN LAPOINTE: I don't think we'll ever include all of them but more of them. Jack.

MR. TRAVELSTEAD: Well, I think there is some benefit to the third option, Mr. Chairman, that you laid out. I don't want to delay this discussion and action ad nauseam, but I think we would be better off if we allowed the technical committee to do the work that they suggest that they can do and have for us by summer. What I don't want to happen is we proceed in haste with an addendum that takes some measures out to public comment and then just three or four months later we have an even better package that we would like the public to see; and by then it will be too late, we will have moved out in front.

If we can just be a little bit patient and let the technical committee do the work that they want to do and can do and then come to the summer meeting and move that package out, I think we would be better off. In fact, if you need a motion **I would propose that we allow the technical committee to complete its work on the reference point alternatives and report to the board at the August meeting, at which point we would initiate an addendum based on that information.**

CHAIRMAN LAPOINTE: That was a motion?

MR. TRAVELSTEAD: Yes, sir.

CHAIRMAN LAPOINTE: Seconded by Pat White. The motion is to allow the technical committee to complete its work on the reference point alternatives and report to the board at the August meeting at which point an addendum could be initiated. Comments on the motion? David Pierce.

DR. PIERCE: I was going to ask what the difference was between the motion that we just acted on and in this motion that has been made since it seems to be the same. Although now that the typing has been finished, I guess the difference is that we're talking about initiating an addendum as we have information in our hand?

CHAIRMAN LAPOINTE: I think it is really clarifying the timing of the addendum because we already moved to initiate an addendum which we were going to consider at this meeting. You got my note from last week saying I didn't believe we were ready for that, so it is just highlighting for everybody what the timing would be on that process. David Simpson.

MR. SIMPSON: I guess I just wonder if we couldn't be a little bit more aggressive with the timetable. If we're going to have a report back from the technical committee on uses of the multispecies work in March, couldn't we then have something developed by the May meeting.

CHAIRMAN LAPOINTE: There is no May meeting next year.

MR. SIMPSON: Oh, it is just one for the two, that's right.

CHAIRMAN LAPOINTE: I asked the same question before. Pete.

MR. HIMCHAK: So from what I understand what Dr. Latour said before; I mean, it is critical for the technical committee analysis, their assumptions on a spawner-recruit relationship in order for us to select for an addendum the SPR reference points. If that is the case, I don't see us doing anything until we get that analysis from the technical committee for the August meeting.

DR. LATOUR: The SPR numbers themselves don't require the spawner-recruit relationship. They require fecundity and they require natural mortality and things like this, and we may want to modify those as Mr. Simpson suggested. What does require the spawner-stock relationship are any projections you might do of the stock under various harvest regimes. As you saw from a glimpse of Matt's work, the assumption that you make can lead to – depending on which assumption you're making can get wildly different results, and that is part of our frustration at this point is how to thoughtfully characterize all those outcomes.

Even if we kind of apply a blanket approach, I think the results will be all over the place, so that the question becomes, well, which one is the most appropriate. There is going to be a great deal of uncertainty in that analysis, and it comes into play for the projections, which are getting at all this sort of relationship amongst other species.

MS. FEGLEY: I just would hope that this motion would include recommendations from the technical committee on what we would have to do functionally to get to the various levels of MSP and to the target as it stands. This is nine months away, and I think that it is a great idea to – the committees have done a great job advancing the science, but this is nine months away and we have a fishery that's functioning above the threshold, and frankly I'm trying to figure out how to explain to our constituents in Maryland why we don't have the conversation about fishing to the target.

I really hope that if we're going to wait nine months before initiating an addendum, that within that is a clear recommendation to the board on how we would manage to get this fishery down to the target and down to those alternative MSPs.

DR. LATOUR: So then is the question – I think I made a note here – tell you what harvest levels would correspond to which levels of MSP –

MS. FEGLEY: – Yes.

DR. LATOUR: – that will happen. That will certainly be there.

DR. JAIME GEIGER: Mr. Chairman, I do share some concern about going until nine months from now and then all of a sudden we're find ourselves in the same position that we don't have the necessary information or we have not given the technical committee enough time. I understand we do not have the opportunity for a May meeting.

We will have a March meeting, and I would hope that at March we can at least see where the technical committee is at this point in time, very similar to Mr. Simpson's motion, but also have an opportunity and flexibility to possibly re-evaluate, if this motion does pass, this timeframe. I am concerned that we're waiting a long time. Thank you.

CHAIRMAN LAPOINTE: Well, I think everybody shares that concern, but we want to make sure that we move with the right information. I would encourage board members to think about other things we can put for discussion at the March meeting to move it along as well, some preliminary discussion of what would the necessary steps be from a management perspective to meet new fishing targets.

We don't have to wait a year to start fleshing those things out because we all know what they are. I've said them before; we have to discuss a coast-wide allocation. We don't work really fast on allocation issues because they're tough. I think that we might want to take part of the agenda at the March meeting and have some of those discussions again so we don't have to wait for the full period of time.

The other thing that Toni asked me to clarify is with this motion it says initiate an addendum at that August meeting, and so what it would mean is that we'd have the technical committee information, the addendum would be crafted, it would be considered for public hearing a year from today and then go out; just to make sure everybody is clear on the timing. Other questions or comments? Bill Goldsborough.

MR. GOLDSBOROUGH: I'm wondering if we're tied into that amount of delay, Mr. Chairman, and if we can at this juncture plan at the March meeting to consider the technical and multispecies technical committees' program by that point and consider whether or not we can seek to have a draft addendum for consideration at the August meeting.

CHAIRMAN LAPOINTE: Toni's point was if we approve this motion, that won't be the case. Dennis Abbott.

REPRESENTATIVE DENNIS ABBOTT: Like others I share the concern about waiting until August in view of our decisions previously to only have three meetings next year. That slows all our processes down. Just in our previous meeting that I chaired on herring, we decided that we need a meeting in January so that we can get things done to go about our business, and I don't know that a possibility wouldn't be, if necessary, to have a menhaden meeting somewhere in May, June or whatever to do what we've put down to do in August.

CHAIRMAN LAPOINTE: I'll ask staff to comment, but the Menhaden Board is the full commission pretty much and so that would make the May meeting a full meeting; and for the reasons we discussed before, cost included, I think that would be hard to

do. Other board members, comments? David Simpson.

MR. SIMPSON: I guess I'm going to follow up on the question that was asked earlier about specifications for – you know, given the current management plan target, when does a decision get made in this process what fishing mortality target we're shooting for in the coming year? In other words, we're staying somewhere between the threshold and the target, if you exceed the threshold you should take action to get below the threshold, but what is to preclude us from pursuing the current target in the coming year?

CHAIRMAN LAPOINTE: It's not directly related to this motion, but –

MR. SIMPSON: I guess I'm asking because we're considering taking a substantial delay in management here, and you can hear around the table there is a little frustration and dismay over that, and so hence my question.

MR. ROBERT E. BEAL: I'll see what I can do. Looking at the fishery management plan, it notes that the board will review the biological reference points, and it does not require specific action. It says the board will consider the SSB or the fecundity reference point in conjunction with the fishing mortality rate, and then the board will determine what action needs to be taken, if any, at that time.

I think the reality is the way this FMP is written it will take an addendum to affect any change that would reduce the fishing mortality for the 2011 fishery. I don't know if the board would want to initiate something today to do that, but even that would be difficult to do given the timing of a March meeting and those steps. I can't think of a quick course to modify the 2011 fishery.

CHAIRMAN LAPOINTE: A question I guess for Rob relating to Lynn's question; could we have at the March meeting information on the kind of percent reductions that would be necessary and then the board could consider – again, it would be an extra action – initiating an addendum or a management action to take action based on the current reference points, understanding that would add extra work for the technical committee and might slow down the other work, but will that information be available?

DR. LATOUR: My hope is that the SPR analyses will be ready to be presented in March. If you wish to base the addendum solely on those, then I think we're okay in terms of the timing. Stemming from the initial motion which came last May, there is a lot more other material that was sort of embedded in that motion.

If you want to wait to include that information in your addendum, I think that is the tradeoff that you're wrestling with. My sense is the SPR work – or that is my plan and my hope if we can pull it off, to have that completely prepared and ready to go for March. Admittedly, we're breaking new ground for menhaden research so they're taking some time. If those are what you want to consider as sort of the full suite of options, then I think it will take longer. I guess that's my read on the distinction.

MR. FOTE: I'm just trying to sit here and figure out how we move forward steps in light of the missing information, but a lot of this battle is going to be once we set cap, how do we do the allocation, how do we divide the baby up and a lot of that is going to be done whether we postpone or it can be done right now to move forward with.

I mean, you know, we could basically go out to public hearings sometime – you know, have a plan on how we do allocations being looked at and brought to us in March and then at least start working on that. No matter what happens further along, if we're going to basically put a cap, cap means sooner or later, how do you divide the pie up, so sooner or later we're going to have make those decisions. That is what everybody is worried about.

And at the point of time that we basically make a decision whether we do that and we are going to look at the figures, but we have all the steps in place to do that. Why are we postponing all the other steps available; so if was done in August, all we have to implement is here what the new science says and we move forward with that and postponing for another year.

I've been sitting around here for years postponing everything on menhaden, and we really don't get any further along than we were when we were setting imaginary caps that never were met to begin with. It's the frustration that we hear from all the anglers involved and everybody that depends on the menhaden for the multispecies that it is using and the ecosystem that depends on it. I'm not comfortable sitting here just delaying another year.

CHAIRMAN LAPOINTE: John Duren.

MR. JOHN DUREN: During this deliberation I've been thinking about the options for going faster, and I think we all have some empathy for that, but I've also been thinking about what does it take to do it right. To initiate an addendum now we're going to do it without the right information, and we run the risk of wishing we had done something different come August. I just wish to speak in favor of the motion that is on the screen, that we wait until August and try to do it right.

MS. FEGLEY: I guess I'm still wondering if we have two issues here. One is this issue of making sure that we have all the information, and I think this is what Rob was saying. I would kind of like to understand a little bit of the risk. What is the risk of taking the steps that we need to take to return the fishery to the target?

I think if we all closed our eyes and imagine that this was striped bass and we saw that fishing mortality rate up where it is, there would be significant more – you know, the concern would be high, so what is the risk of one issue being taking the fishery to the target and a second issue being making sure that we have all the information in place to implement the broader more ecosystem-related reference points?

What I'm saying is what would be the tradeoff if we said, okay, we're going to consider what it would take to get to the target earlier; and then once we're fishing at the status quo target, then consider the multispecies work? I'm just curious how that – there's two issues. One is where we are status quo relative to the status quo framework; two is making sure we have all the information to change the framework to include the ecosystem system.

CHAIRMAN LAPOINTE: It strikes me that without jamming up the technical committee too much – obviously, the basis for the motion is moving ahead for August with a new reference point – we could put on as an agenda topic in March, when we'll have the information from the technical committee on the different SPR numbers and the percent reduction and we could consider action then, as well. We don't have to wait entirely for the one action to take the other one, and so it strikes me that is a logical progression, which would leave this motion in

place just so that we continue the broader work on reference points. Bill Goldsborough.

MR. GOLDSBOROUGH: Mr. Chairman, I don't see what we gain by passing this motion at this time. I do see what we lose. What we're doing is formalizing a one-year delay here today. Given the motion that we just passed, which is going to result in technical committee guidance on some of these alternatives at the March meeting, it seems to me to be a whole lot more responsible action for this board to delay action on this motion until after we get that guidance in March. I don't see what we lose by doing that, so I would like to move to table this motion until the March meeting after that technical committee report.

CHAIRMAN LAPOINTE: I have a motion to table; do we have a second? Second by Dr. Geiger. It's a non-debatable motion; take time to caucus.

(Whereupon, a caucus was held.)

MR. WILLIAM A. ADLER: Mr. Chairman, is table the right word or postpone to a definite time; which is correct here.

CHAIRMAN LAPOINTE: Table to a date certain. Again, this is non-debatable. All those in favor of the motion to table please raise your hand; all those opposed; any abstentions; any null votes. **The motion carries.** It was 13 to 4, I believe. What do we do now? Pat.

MR. PATTEN D. WHITE: Mr. Chairman, we have under other business –

CHAIRMAN LAPOINTE: I do have the other business, Pat. I think that delays the consideration of the management options until the March meeting. I will work with staff to not only have the discussion about what reference points we exactly use, but what our next steps are from a management perspective, because I think that's an important conversation to get started so we understand how these things mesh together. Does that make sense to people? David.

MR. SIMPSON: I was looking online and I don't see where we have a plan development team already established. Do we and could they be working on alternatives for the course of action; as you just said, specifically how would we approach a reduction in fishing mortality, considering quotas, how they might be administered, trip limits, whatever it may be, so that we're kind of working on two tracks at the same time so that we don't spend another year working on

what is that, which is much more complicated than what we're working on and having a hard time get started doing now.

CHAIRMAN LAPOINTE: Toni says we do not have a PDT, so I will work with staff to get that group together and we'll share that electronically with folks just so that we can engage. Our other business, the easiest one will be the AP membership or the AP nomination from Maine for a guy named Duncan Barnes. That nomination was in the package. Pat.

MR. P. WHITE: **I would like to nominate Duncan Barnes to the position on the AP.**

CHAIRMAN LAPOINTE: Thank you; do I have a second? Bill Adler seconds. **Any opposition to the motion? Thank you very much;** Duncan is on the AP and he will have a little bit of work to do. He is a great guy to work with. Rob Latour, you wanted to mention some transitions at Beaufort.

DR. LATOUR: I don't have it completely worked out, but Erik Williams has served as the lead assessment analyst, as many of you I'm sure know, for the last three assessments, two of which were benchmarks. My understanding is that NMFS is pulling him in a direction that will not allow him to remain in that role.

He is transitioning to Amy Schuler, who they have hired within the last year. I wanted to bring that to your attention. As we need to work on the assessment model, this transition has caused us a little bit of delay. Our long-time colleague – and I hope I don't get in trouble for saying this – Doug Vaughan is considering retirement in 2011. He is a sponge of information regarding menhaden. His dissertation was on menhaden and he hasn't dropped it since.

There is also a legitimate concern on the point of the Southeast Fisheries Science Center about Beaufort's continuous role in the menhaden assessment. Given the reauthorization of Magnuson and the need for ACLs, the challenges that many of the southern species and Caribbean fisheries face, Beaufort's time is being continuously pulled in that direction, and the question that always comes up from the director is why menhaden, they're not something we manage, they're a state resource or an ASMFC resource. That gives me great nervousness because I think the team there has a long history

and a great deal of corporate knowledge regarding menhaden and menhaden population dynamics.

They're a pleasure to work with. They've made great contributions. I bring these points to your attention because in my view we need to sort of start developing a transition plan. The more immediate one is maintaining positive communications with the Southeast Center to ensure that they can remain members of the assessment group. I don't know exactly how that goes, but Bonnie needs to be convinced that it is a good use of their time, I think.

CHAIRMAN LAPOINTE: On that issue specifically I believe the commission had similar conversations with the Northeast Fisheries Science Center and the NRCC has been discussing it because it is an issue of other commission-managed species. Is that something we're going to discuss in the Policy Board?

MR. BEAL: It is not on the agenda now, but it is a reasonable thing to discuss. I think the unique factor here is that for Mid-Atlantic and northeast species we have the Northeast Region Coordinating Council where the commission and the two councils and the science center and the region all get together a couple of times of year and discuss priorities and issues like this. We don't really have anything analogous to that in the southeast, so we may want to talk about sending letters or setting up a meeting or doing something to convey this board's concern or the commission's concern about continuing the menhaden work out of the Beaufort Lab.

CHAIRMAN LAPOINTE: I will work with the ISFMP Board Chair to see if he will add that as another business agenda item. The last issue we had a motion that was tabled at the August meeting and it was a motion by Bill Goldsborough to continue the Chesapeake Bay reduction cap for 2011. It was seconded by Pat. It was tabled until this meeting.

ADJOURNMENT

It was one of those I think transition issues, with Brad leaving, that we missed. It is my understanding we have the cap in place for 2011, anyway, is it not? Well, if people want to discuss it, we need a motion to take it off the table; isn't correct? Well, if we don't get a motion to take it off the table, we won't discuss it. I see no interest in taking it off the table. That is our last agenda topic; we will adjourn.

(Whereupon, the meeting was adjourned at 12:25 o'clock p.m., November 8, 2010.)