

PROCEEDINGS OF THE

ATLANTIC STATES MARINE FISHERIES COMMISSION

HORSESHOE CRAB MANAGEMENT BOARD

Crowne Plaza Hotel Old Town
Alexandria, Virginia
May 7, 2008

Approved by the Board on October 21, 2008

TABLE OF CONTENTS

Call to Order	1
Approval of Agenda.....	1
Approval of Proceedings.....	1
Public Comment.....	1
Plan Review Team Report	4
Horseshoe Crab Advisory Panel Report	7
USFWS Shorebird Technical Committee Report	8
Horseshoe Crab Technical Committee Report	13
Draft Addendum V Presentation.....	17
Other Business	24
Adjourn	24

INDEX OF MOTIONS

1. **Approval of Agenda, by Consent** (Page 1).
2. **Approval of Proceedings of February 7, 2008, by Consent** (Page 1).
3. **Move that the board approve de minimis status for Maine, New Hampshire, PRFC, South Carolina, Georgia and Florida for 2008** (Page 6). Motion by Pat Augustine; second by Bill Adler. Motion carried (Page 6).
4. **Move to accept the PRT Review Proposal and/or recommendations** (Page 7). Motion by Pat Augustine; second by Pat White. Motion carried (Page 8).
5. **Move to strike Option 3 of the New Jersey/Delaware section of this addendum and limit ourselves to getting public comment on either reverting to the previous addendum or staying with the current one, which is Option 1 and Option 2** (Page 18). Motion by Eric Smith; second by Bill Adler. Motion carried (Page 19).
6. **Move to reconsider previous action** (Page 19). Motion by Rep. Abbott; second by Roy Miller. Motion failed (Page 20).
7. **Move to add to the Maryland Proposal a one-to-one male to female sex ratio harvest proposal as Option 3; and as Option 4, a two-to-one male to female sex ratio harvest proposal and an increase in the quota to 200,000 crabs** (Page 20). Motion by Roy Miller; second by Eric Smith. Motion failed (Page 21).
8. **Motion to accept the document as presented for Virginia** (Page 22). Motion by Jack Travelstead; second by Pat Augustine. Motion carried (Page 22).
9. **Move under Maryland, Option 2, to include language that continues the current quota of 170,653** (Page 22). Motion by Jack Travelstead; second by Pat Augustine. Motion carried Page 22).
10. **Motion to approve this addendum for public hearing with the added changes and deletions as recorded** (Page 22). Motion by Jack Travelstead; second by Pat Augustine. Motion carried Page 22).
11. **Motion to adjourn, by consent.** (Page 27).

ATTENDANCE

Board Members

Terry Stockwell, ME, proxy for G.Lapointe (AA)	Roy Miller, DE, Chair, proxy for P. Emory (AA)
Sen. Dennis Damon, ME (LA)	Bernard Pankowski, DE, proxy for Sen. Venables (LA)
Patten White, ME (GA)	Tim Targett, DE (GA)
Doug Grout, NH (AA)	Harley Speir, MD, proxy for T.O'Connell (AA)
G. Ritchie White, NH (GA)	Jack Travelstead, VA, proxy for Steve Bowman (AA)
Rep. Dennis Abbott, NH (LA)	Kyle Schick, VA proxy for Del. Lewis (LA)
Bill Adler, MA (GA)	Jimmy Johnson, NC, proxy for Rep. Wainwright (LA)
David Pierce, MA, proxy for P. Diodati (AA)	Robert Boyles, SC, (LA)
Vito Calomo, MA, proxy for Rep. A. Verga (LA)	John Duren, GA (GA)
Eric Smith, CT (AA)	Spud Woodward, GA. Proxy for S. Shipman (AA)
Lance Stewart, CT (GA)	Bill Sharp, FL, proxy for Gil McRae (AA)
James Gilmore, NY (AA)	April Price, FL (GA)
Pat Augustine, NY (GA)	Brian Hooker, NMFS
Peter Himchak, NJ, proxy for D. Chanda (AA)	David Perkins USFWS
Erling Berg, NJ (GA)	

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

Ex-Officio Members

James Cooper, AP Representative

Mike Millard, TC Representative

ASMFC Staff

Bob Beal
Vince O'Shea

Chris Vonderweidt
Brad Spear

Guests

Tom McCloy, NJ DFW
Lisa Callahan, Atlantic States Fisheries Journal
John Frampton, SC DNR
Steve Heins, NYS DEC
Christopher Holmes, NMFS
Carl Shuster, VIMS
Michael Luisi, MD DNR
Mike Litchko
Charles Givens

Dave Smith, US Geological Survey
Stewart Michels, DE DFW
Benjie Swan, Limuli Laboratories
Allen Burgenson, Lonza Walkersville, Inc.
Caroline Kennedy, Defenders of Wildlife
Merrill Campbell, Jr. South Connection SFD
Jeffrey Eutsler
Rich Robins

The Horseshoe Crab Management Board of the Atlantic States Marine Fisheries Commission convened in the Presidential Ballroom of the Crowne Plaza Hotel Old Town, Alexandria, Virginia, May 7, 2008, and was called to order at 4:15 o'clock by Chairman Robert H. Boyles, Jr.

CALL TO ORDER

CHAIRMAN ROBERT H. BOYLES, JR.: I'd like to call the Horseshoe Crab Management Board meeting to order. Good afternoon, everyone. My name is Robert Boyles from the state of South Carolina. I'm the Chair of the Horseshoe Crab Management Board. An agenda was passed out to you on your briefing CD.

APPROVAL OF AGENDA

CHAIRMAN ROBERT H. BOYLES, JR.: What I would like to do now is get board consent on the agenda. I've received no items to ask for any additions to the agenda. Seeing no additions to the agenda, the agenda will stand approved.

APPROVAL OF PROCEEDINGS

CHAIRMAN ROBERT H. BOYLES, JR.: Also included on your briefing CD were the proceedings from the February 7th meeting. Are there any changes to those proceedings?

REPRESENTATIVE DENNIS ABBOTT: Motion to accept.

CHAIRMAN BOYLES: There is a motion to accept; is there a second? Second by Pete Himchak. Any discussion? Any objection? All right, the proceedings are approved.

PUBLIC COMMENT

CHAIRMAN ROBERT H. BOYLES, JR.: Next we'll move into the part of the agenda on public comment. At the beginning of the meeting public comment will be taken on items that are 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 is closed, I, as Board Chair, may determine that additional public comment will not provide any additional information to the board. Under this circumstance I, as 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 the length of comment. I know I've had several folks who have signed up to make comment on this particular issue. We'll take comments at this time. Please keep your comments brief. The first person I have listed signed up for public comment is Michael Litchko.

MR. MICHAEL LITCHKO: My name is Michael Litchko. I was wondering if the board could tell me was the status 2008 update report peer reviewed?

CHAIRMAN BOYLES: Mr. Litchko, we'll take comments. If you have any comments to provide to the board for their consideration, we'll take that. Questions you could ask offline; I'd ask you to do that.

MR. LITCHKO: I have comments on the science of the 2007 assessment report; is that all right?

CHAIRMAN BOYLES: Yes.

MR. LITCHKO: I wanted to know that if – is the ASMFC – they must have sound science on most of the policy of the science in place that states that you must have full disclosure of the scientific methods and the data sets and not to use unpublished science in place of best available science, plus per communications. When it is not available, so how can it be best available science?

The reason that unpublished science should not be used is because that's where the scientists can hide behind fabrication, falsification and fraud in the science by having this unpublished information. When the Atlantic States says that – or the U.S. Fish and Wildlife says best available science, it's not available, so how can you review it or any other good scientist review it to determine what that science is all about?

I'm asking that somehow you put some mechanism in place that we must have full disclosure, and that's a key word, full disclosure of all its scientific methods. The 2007 status report of the red knots, most of this report has been peer reviewed. There was an independent peer review done in 2003. The peer review report has concluded that all of the population estimates of the Delaware Bay were not useful because of the omitting of proper science and the values and didn't cover the needed range.

I wanted to give – I don't have enough every one of the council members, but I have papers here that could be passed out. If they want to take a look at them, I want to address a couple of issues on the pages. If the status report was peer reviewed in 2003 of nearly all the science that's been used and the population estimates of the red knots in the Delaware Bay and the surrounding area were not useful, I mean why do we have the 2007 assessment report if it's not useful because of the omission of geographic area and the values?

However, Virginia Tech commented on the 2008 status and stated that the authors of the report omitted some of the Virginia information in there. But what's stunning about the 2007 report is that in 2005 there were 9,150 red knots in Virginia. On the same day in Stone Harbor, New Jersey, there were over 20,000 red knots that was counted.

That comes to a total of 29,150, but yet in the Delaware Bay report by New Jersey and Niles, he stated it was only 15,345. He reports half of what was really out there of the total red knot population. So, Niles and authors omitted the entire Atlantic coast population of red knots from the total estimates of red knots.

Now it's clearly there in the report, in the status 2007 report, those numbers. On those papers that are in there, it's on Page 16, 17 and 18 in those reports, those numbers are there. They are not made-up numbers. So how could the red knot population have this dramatic decline that entails all of this stuff that we're doing here with the red knots and find out that the population is twice that of what New Jersey states? It's been peer reviewed that it's not even useful.

CHAIRMAN BOYLES: Mr. Litchko, while there is a little break –

MR. LITCHKO: One more thing.

CHAIRMAN BOYLES: -- here I just need to encourage you to hustle up. We have got several other folks who would like to make comments before this board. Can you wrap up your comments in minute?

MR. LITCHKO: Yes, here are pictures of red knots that were on the Atlantic coast in Stone Harbor yesterday. I took these pictures. There are thousands of red knots that are there. When New Jersey does their report, there will only be between zero and a few hundred red knots on the Delaware Bay. Niles

and the authors stated that 12,000 red knots died in 2004. You can see that on Page 15 on there.

So at this point there are only a few thousand red knots left, then, but the science doesn't add up to that. I just can't believe that these authors are saying that the red knots all died in one year, and yet you find 30,000 of them on the Atlantic coast and you don't even survey that coast. I don't know why that was omitted and why none of the authors could recognize that.

One more other thing before I go is that the 2007 status report of the egg densities for the red knot suggests that it doesn't include a shortage of horseshoe crab eggs. The problem is in the Arctic and South America. Virginia Tech states that there is no defensible data that supports that the population of horseshoe crabs must increase to have the magnitude in order to have a beneficial impact on the survival of the red knots.

According to Virginia Tech, the 2007 authors may have understated any limitations of horseshoe crab abundance for red knots and weight gains. Take a look at that on Page 5 on the handout. In the 2003 peer review all data – it states in here. It's on Page 2, 3, 4 in there. In the peer review it states that all existing data up to 2003 are not adequate to evaluate the relative importance of any year of record. All attempts to estimate weight gains are inherently flawed. How can the 2007 status report have any credibility and standing?

CHAIRMAN BOYLES: Mr. Litchko, thank you for your comments. We're going to need to move on. I will tell you this. What you've just submitted to us and the management board will be entered into the record. I appreciate your comments. Next up is Mr. Charlie Givens.

MR. CHARLES GIVENS: Good afternoon, sir. My name is Charles Givens. I'm from Cape May, New Jersey. I'm a commercial fisherman. I'd just like to reiterate the point made by the previous speaker about available science and unavailable science. I know the statute says that we're to use the best available science at least in the state level.

Science that is not available because it's unpublished or it's cited as per communication to me is clearly unavailable. The result of using that science in a situation such as we're in today in New Jersey where we're under legislation it will probably prevent us from ever catching horseshoe crabs again in the state.

It's most unfortunate that some federal money was used to produce this science. In 2006 as well as 2008 that science did not appear until it was part of a petition to the U.S. Fish and Wildlife to have red knot listed. That's happened again in 2008 where the New Jersey Marine Fisheries Council was not privy to the update, the 2008 status update. The public was not privy to that status update.

As far as I know possibly you people had not seen that at that time. They used that information represented as being from the U.S. Fish and Wildlife Service. They represented that it was peer reviewed. They represented that this was cutting edge technology and science. We read the paper now from Virginia Tech which pretty much says that none of that is true.

Along with the legislation that we got in New Jersey, we were also hit with a fine. There is now a ten and twenty-five thousand dollar fine for possession of horseshoe crabs, first and second offense in New Jersey. It's way overboard. It was put into the bill without our ability to speak to it because it was done at the end of the assembly's hearing.

I think Atlantic States, to maintain their credibility, has to take look at science, has to take a look at what is available, what is unavailable. You have to make sure that – you know, science is an ongoing thing. It should be reproduced by future scientists to be valid and to be real science. What you're using here with unpublished data and per communication is just basically hearsay.

The tragic results of that in my state, I see people that are actually leaving New Jersey to just move to other states to get away because they cannot make a living in New Jersey. There is mom-and-pop fishing operations up and down our little coast that are just going to fail now because of this. I just think it's wrong. Thank you very much.

CHAIRMAN BOYLES: Thank you, Mr. Givens. Jeff Eutsler. Merrill Campbell.

MR. MERRILL CAMPBELL, JR.: My name is Merrill Campbell. I am with Southern Connection Seafood in Ocean City, Maryland. I'd like to thank the management board for letting me speak. It will only take two or three minutes. I'm also a member of the Atlantic States Advisory Panel.

I would like to say on the onset here to thank the advisory panel for all the hard work that they have done. Excluding me, these guys are professionals.

They know what they're talking about and you really should listen to these guys. I am here today to respectfully remind the Horseshoe Crab Board to be careful in accepting information circulating deemed as credible.

I think these couple of gentlemen before have some valid points about that. I have like three examples here. The first one, for example, is the Niles Paper, the update on red knot status. Then I'd like to refer you to a letter that I hope you received. It was written to the Shorebird Technical Committee from Virginia Tech, dated March 17th, 2008.

It takes issue with the serious assertions by the authors regarding the abundance of horseshoe crabs, the importance of Delaware Bay as their migration staging area and the overall importance of horseshoe crab eggs as a food item for migrating knots. I really think that the institution should be held credible in their observations. We work very closely with them at our dock. They use one of the trawlers. The next gentleman, he does the surveys, he helps to do them for them, and they seem like they're very knowledgeable folks in their studies.

Another example perhaps – and I should take that word “perhaps” out – of flawed data is the horseshoe crab mortality after bleeding – we also have a biomedical operation at our dock. We deliver them to a company – but at 15 percent mortality by Thompson in 1998 – and this was in the 2008 fishery management plan review.

Another example of inaccurate information as it refers to Maryland watermen – I can speak for ourselves – is the economic impact statement by IE Incorporated. When I read this thing, I couldn't believe it. I mean, I read your minutes I think of your last meeting that you guys had and you kind of praised the gentleman for the work he had done.

But to you, you're the casual observer, you might not know what's really going on. I am there on the front lines. We're still trying to find out who he interviewed in Maryland other than maybe the Maryland DNR Agency. And \$20,000, I'll find somebody you can hire to do that job if you'd like, and I'm not trying to be ridiculous about that. My appeal to you is to please be careful in the information you are accepting as fact as it might be fiction. Thank you very much for your time.

CHAIRMAN BOYLES: Thank you, Mr. Campbell. Mr. Eutsler.

MR. JEFF EUTSLER: My name is Jeff Eutsler. I have the fishing vessel Tony and Jan out of Ocean City, Maryland. I'm a horseshoe crabber. I have been doing it for 30 years, and I hope to do it a little bit longer until I hopefully will get social security one day, maybe. I'm also on the advisory panel for horseshoe crabs. I have worked with Dave Hata and Virginia Tech on their trawl surveys.

We survey from Atlantic City all the way down to Cape Charles. That's the portion I do. It's very efficient. I think we need to look into that because we're seeing abundance of crabs. To believe one side, there isn't any; and for what we see as fishermen, there is really not a problem with them.

There are a couple of things – they were touched so I'm not going to reiterate, but the mortality on the biomedical crabs, I catch those also, and I'm going to say ours is probably 3 percent, the way we handle them. We handle a large quantity of them. That 15 percent – in fact, in 2003 it was published that Virginia Tech did a study on it, and they were getting somewhere I think between – if I remember the numbers – 6 to 8 percent.

I'm the kind of person, we advance with technology. And no offense to Dr. Shuster, I've had him out on my boat, but some of his studies were back in the fifties, and it's time to get newer and later things because technology has gotten so better that we can target what we want to target. It's ridiculous, you know, here we're spending loads of money and not getting stuff, and we're believing it.

This is the horseshoe crab. It's not for the red knots. I don't have anything against birds, believe me, but we have to look to the Arctic and, like they say, down in Uruguay and places like that. Right in one of the things that you published it says they saw 1,300 birds dead, and then they went and counted them, and they said it was only 300. Could that be true? Is that factual? Who is to say?

They said that and then when they started counting them, well, we don't want all this number because we want these horseshoe crab eggs. And then in Virginia, there they have – I think it's 10 percent of the birds that stop there, they don't eat horseshoe crab eggs. They eat a little clam, and I'm not sure of the pronunciation so I'm not going to try it. It's a little clam they eat and they're not dependent on the horseshoe crab egg.

A lot of things of what I see in Ocean City over the 30 years that I've been there – I moved down from

Annapolis – is the bays are filling up with sand and development. We've only got one spawning beach now left in Maryland because of the development, and that's a sad thing to blame fishermen for doing something everyone in this room has a share in doing.

We've got to really look at it, you know, because with the economy the way it is, we're going to be on the unemployment line, and I'm being very serious about it. I didn't know if there were any questions on how the trawl survey is done. I thought I'd answer it if anybody wants to know. That's all I'd like to say.

CHAIRMAN BOYLES: Thank you, Mr. Eutsler, appreciate your comments. That's all I've got listed of people who signed up for public comment, so we will move into the next item on the agenda. Brad Spear is going to give us a plan review team report.

PLAN REVIEW TEAM REPORT

MR. BRADDOCK SPEAR: Thank you, Mr. Chairman. The state compliance reports for horseshoe crabs were due February 1st of this year. I'll give you a summary of plan review team's comments on those reports.

The first thing, it was reported coast-wide bait landings for 2007 were a little bit over 817,000 crabs. A state-by-state breakdown can be found in the fishery management plan review, Table 2, or bar graph Figure 1, for the past ten years or so. The reported landings in 2007 was down about 3 percent from the previous year and down about 11 percent from the previous five-year average.

We saw continued increased landings in Massachusetts. This is continued from 2006 when they were above 150,000 crabs. The largest increase that we saw in 2007 from 2006 was in New York, still within their ASMFC quota. The largest decreases were seen in 2007 in Delaware and Virginia.

For the biomedical fishery it was reported that over 500,000 crabs were brought to the biomedical facilities for bleeding. This was approximately a 45 percent increase from the previous three-year average. If you look at Table 1 in the 2008 review of the fishery management plan, it details the previous three-year landings.

The plan review team estimates mortality from the biomedical process on the crabs, and primarily using a 15 percent mortality from the bleeding process, that

number is essentially the highest mortality estimates reported in the literature, so that gives you kind of a benchmark. The estimate that the plan review team came up with for 2007 on mortality of crabs was a little over 63,000, and that is above the fishery management plan threshold that was set back in 1998 of 57,500 crabs. The FMP directs the board to consider action once that threshold is reached.

For state compliance, New Jersey was temporarily out of compliance with Addendum IV. Their moratorium that they had in place expired at the end of 2007, and they did not have any other regulations – well, the regulations reverted back to Addendum III, which allowed a 150,000 crab harvest, male or female. However, on April 1st the governor signed a harvest ban into law that again extended the moratorium on horseshoe crab harvest. During that period from January 1st to April 1st no crabs were reported landed.

Also, the District of Columbia did not submit a compliance report, and this is for several years in a row now. The plan review team recommended that D.C. pursue similar action that Pennsylvania did this past year. Essentially Pennsylvania was put on the board to close a landing loophole about nine or ten years ago and put in a possession and landing moratorium for horseshoe crabs. D.C. did a similar thing about that time.

Pennsylvania has since requested to the Policy Board that they be removed from the Horseshoe Crab Board because they have no interest in the fishery and generally the business of this board because they do have the regulations in place to disallow harvest and possession. We recommend that the District of Columbia consider similar action since they're in a similar position.

The plan review team found that all states are in compliance with the plan. There were two states with harvest overages last year, Delaware and Virginia, and they both paid back those overages in 2007. There was a slight overage in 2007 by Maryland exceeding its quota by a little under 1,500 crabs. That number will be deducted from their quota for 2008.

Maine, New Hampshire, PRFC, South Carolina, Georgia and Florida requested de minimis status. The plan review team recommends granting those jurisdictions de minimis status for 2008. They all qualified. New Jersey qualified for de minimis status but did not request it. The Law Enforcement

Committee reported that there were no significant enforcement cases for 2007.

At the last board meeting Pat Augustine asked the staff to kind of take a poll of what reporting states used for horseshoe crab harvest. The plan requires monthly reporting and New Hampshire, Massachusetts, Rhode Island on paper; Connecticut, Maryland for their non-permit holders. Virginia, North Carolina, South Carolina, Georgia and Florida all have monthly reporting.

Rhode Island also requires weekly call-in reporting. New York requires weekly reporting for select months, mainly the highest landings' month, to keep an eye on harvest; Delaware, Maryland for their special permit holders and PRFC. Maine requires annual reporting, and this is allowed by the plan if it's a 25-crab per day possession limit or less, which they also have. Virginia requires daily reporting for its special horseshoe crab permit holders.

I believe part of the reason New York was asking for this information, they may have been considering options for regulation changes based on increased harvest in their state due regulations in the Delaware Bay area. Recently both Massachusetts and New York passed regulations for 2008 that reflect an increased effort in their states. Massachusetts reduced their quota to 165,000 crabs with a daily possession limit of 400 crabs per day. New York set its quota at 170,000 crabs, which above their voluntary state quota of 150,000 last year, but still well below the ASFMC quota, and also introduced various levels of daily possession limits.

And to go through a couple of the highlights for research and monitoring, the Virginia Tech Horseshoe Crab and Shorebird Research was funded in 2007 at \$542,000. It was reported to me that in the NMFS budget they are slated to get around \$400,000 for that research. A good chunk of that research goes towards the trawl survey. Generally speaking, you had received a report on that at the previous board meeting, but just to remind you there were increases seen in all demographic groups of horseshoe crabs in that survey. Not all of it is statistically significant but the trend was increasing.

The last survey is the Delaware Bay Spawning Survey, and just two highlights there, the female spawning activity has been stable over the past nine years. For the first time this year the authors of the report broke out male spawning activity mainly because of the regulations in Delaware Bay of male-only harvest. It's reported that male spawning

activity has increased significantly from 1999 to 2007.

CHAIRMAN BOYLES: Thanks, Brad. Questions for Brad on the PRT report? Bill.

MR. WILLIAM A. ADLER: Thank you, Mr. Chairman. Brad, where did you get the 15 percent mortality from the biomedical, is what you said, and where did that come from?

MR. SPEAR: There was a study conducted about ten years ago by a graduate student in South Carolina, and it's from his masters research.

MR. ADLER: And is that the sole method of that particular number is that one study?

MR. SPEAR: That is one study conducted by that individual. There are a couple of other studies in the literature with lower estimates of mortality.

MR. PETER HIMCHAK: Thank you, Mr. Chairman. On this very issue, I know with exceeding the threshold of 57,500 crabs by 6,000 in 2007 and the plan does state that the board should consider action, I think it's premature for the board to consider action at this point for a number of factors. First of all, there is considerable debate over the percentage of the mortality associated with the bleeding of horseshoe crabs.

When we required biomedical groups to do a tag-and-release years ago, we had estimates ranging from six, seven, down to three. A lot of it depended on whether the crabs were harvested by hand and bled and then released or they were taken by trawl and then bled and then released. So, the plan review team had to apply some number – 15 percent of 500,000 crabs or whatever it is that we are by the threshold, but I would like the technical committee or somebody – I don't know if it's the plan review team or at one time we had this biomedical working group that dealt with this very issue on mortality associated with bleeding.

I think the issue should be deferred to re-examine some of the percentages. There is another issue on whether crabs are taken – before they come dockside, if they're taken by hand or by trawl, to see if there is any culling-at-sea mortality associated with this. The bottom line is I think the 63,000 is very premature and should be further investigated and maybe at the August meeting the board could then decide if any management action is required.

You have to realize that when we developed the plan in about record time of nine months, that 57,500 was a quick, fast and – I'm trying to recall how we came up with that number. It was 15 percent of something, so the issue needs further investigation before management action is considered. Thank you.

MR. HARLEY SPEIR: I would agree with Pete. That 15 percent number has been in dispute for a number of years, and we do have consistently lower estimates of mortality. Again, I would agree with Pete, this is probably premature.

CHAIRMAN BOYLES: Any other comments on the biomedical mortality estimates? Do I see shaking heads? What I heard from Pete was can we re-examine this? Is that consensus from the board? Okay, Pete.

MR. HIMCHAK: Yes, Mr. Chairman, my only concern is who is going to churn the numbers because they're going to have to take all the questionnaires that are supposed to be done by every vendor of every biomedical group. Is there a subcommittee of the technical committee that can look at all these data? When we had this biomedical working group, I think we had three members on it. It was Tom O'Connell, myself and Stew Michels, so I guess he's the only one left here that can do all the work.

CHAIRMAN BOYLES: Pete, my sense was to kick this back to the technical committee.

MR. SPEAR: Mr. Chairman, I think the plan review team will still continue to go through the individual biomedical landing reports and look to the technical committee for its guidance on any of the peer-reviewed literature on the mortality estimate that we used and give it a critical look of those numbers and make recommendations.

CHAIRMAN BOYLES: So I've got consensus from the board that we're going to kick this back to the technical committee to review the mortality estimates? Okay. We still need to deal with compliance recommendations, de minimis and compliance recommendations. Pat Augustine.

MR. PATRICK AUGUSTINE: Thank you, Mr. Chairman. I'd like to make a motion and move that the board approve de minimis status for Maine, New Hampshire, PRFC, South Carolina, Georgia and Florida for 2008.

MR. ADLER: I'll second.

CHAIRMAN BOYLES: Motion by Pat Augustine; second by Bill Adler. Any discussion? The only question I've got is how to deal with the District of Columbia. Do we need to include – that's probably a separate motion. The motion has been made and seconded. Is there any opposition to the motion? Seeing none, the motion carries. Next we will move right into Dr. Cooper's Horseshoe Crab AP Report.

HORSESHOE CRAB ADVISORY PANEL REPORT

DR. JIM COOPER: Thank you and good afternoon. Your advisory panel met less than a month ago. We had a good turnout. We had harvesters, biomedical and the conservation community represented there. Of course, we reviewed the landings and it has been discussed by the previous speaker, by Brad. We've observed the reduced landings in the bay area. We also noticed, from these figures, that the demand for the bait industry has pushed over into other areas, New York and Massachusetts, for example. This is, indeed, having an economic impact.

I am no longer directly involved in the biomedical industry; I'm an innovator in that technology, but I have been out about eight years. I was a little bit surprised to see the jump in the number of horseshoe crabs taken. I think it was a little over 500,000. I think there may be a couple of things driving this.

First of all, with the regulatory actions that have occurred, there may be more males taken for the biomedical applications and females. Unfortunately, the little guys are about half the size of the females, and the actual size of the crab has to do with the amount of hemolymph taken, and, of course, the amount needed for – meet the needs of the industry, so that may account for some of that was an increased proportion of males being used in the biomedical industry; or, it may be simply one year's blip because one of the industries need to increase their inventory.

Now, there has been already some discussion of the mortality data. Since the Thompson Study was done about ten miles away from my facility when I was there, I can comment that this was a young man's early attempt to do this study. The science doing these mortality studies have improved, and there are peer-reviewed articles that certainly have the estimate below 10 percent.

Having been in the industry for a number of years, I will assure you that the mortality is not associated with the bleeding or donor process. That just does not happen inside the lab. These are issues involved

with the transport, particularly the return-to-sea policies that each of the industries follow. Unfortunately, these guys are pretty active and they impale their neighbors sometimes with their telson and that accounts for some the mortality.

So it's the return-to-sea policies that impact on this number. Recognizing the value of this resource, I can see all-around improved efforts to reduce this mortality number associated with return-to-sea policies. The recommendation to not take action at this time on that number I think is certainly a wise one. It is consistent with the wishes of the advisory panel.

Again, the regulatory issues have placed demand on states outside of the Delaware Bay to make up for needs of the industry, and I think the board needs to be aware of the impact of all of this. At least that's the recommendation of the panel. We had a member of the public already speak what they thought was misleading and inaccurate data that was described in the economic assessment.

The panel was interested in the adaptive resource management initiative. The panel was concerned that they have the opportunity to be a part of this as a stakeholder and to have some representation and also have the opportunity to review and comment on the findings and actions of this group.

With respect to the Draft Addendum V, the panel feels that perhaps the most cost-effective and appropriate action at this point is to extend Addendum V. We would like to see this clearly as a one-year interim initiative and not one that we would expect to be done indefinitely a year at a time.

We would also encourage the board to take a look at the improving status of the horseshoe crab with respect to its stock assessment. We think the FMP is working and we need to give a few years for that to take place. The panel also was supportive of the recommendation from Maryland fisheries representatives to endorse the male-to-female ratio of two to one provided they could have a quota of 200,000. Thank you, Mr. Chairman.

CHAIRMAN BOYLES: Dr. Cooper, thank you that. Any questions for Jim on the AP meeting? Seeing none, Jim, I'd like to point out, as you saw, we just have asked the technical committee to help us look at the biomedical mortality rates. The other request from the AP was to have two advisory panel members participate in the adaptive resource management process. I believe we can do that. The question I've got is there any objection from

members of the board for making that happen? Okay, I don't see any so we'll make that happen.

Okay, next we'll go to the Shorebird Technical Committee Report with Greg Breese. Greg, excuse me, before you get started, in my haste to get us on track, I failed to do something, so will you indulge me to go back. We need to accept the plan review team's review of the 2007 fishery. Pat, do I see you about to make a motion?

MR. AUGUSTINE: Yes, thank you, Mr. Chairman. I move to accept the PRT Review Proposal and/or recommendations.

CHARMAN BOYLES: All right, I have a motion by Pat Augustine and a second by Pat White. Any discussion? Any objection to the motion? Seeing none, the motion carries. Thanks, Greg, go ahead.

USFWS SHOREBIRD TECHNICAL COMMITTEE REPORT

MR. GREGORY BREESE: You're welcome. The Shorebird Technical Committee met in April and part of that was to review the Red Knot Assessment Report that was done for the Fish and Wildlife Service in 2007; the 2008 update to that report, which you had a presentation on at your last board meeting; hear the report from Virginia Tech on the work that they've been conducting and had previously been presented to the Horseshoe Technical Committee actually; get an update on the Adaptive Resource Management Workgroup; and see what we could learn from updates to the indices that the Shorebird Technical Committee has been trying to work with.

What I'll do is I'll go through pretty much in that order and spend a little bit of time with some of those indices. First, I'll talk a little bit about the Virginia Tech presentations. There was a question from the Horseshoe Crab Technical Committee to the Shorebird Technical Committee after they had heard the presentations from Virginia Tech. The question was Virginia Tech's studies seemed to indicate that horseshoe crab eggs were not being depleted by shorebird foraging and what did that mean and did we have any insight on that?

Most of the other presentations that Virginia Tech provided we heard, but there wasn't much discussion. This one definitely generated a lot of discussion. The conclusion was that it was unclear whether the birds were depleting the eggs in the sense that there were not enough eggs for the birds or that there were

excess eggs because of the foraging behavior of the birds.

There was some other work that had been done previously which indicated that birds shift their foraging strategy from a constant peck rate to what is called the probing rate, which is slower, and it was conceivable that the birds could move if they were not getting sufficient eggs at that constant peck rate. What Virginia Tech reported was that in three different places on the beach or conditions on the beach, one being the wrack line, one being the pits that were identified as horseshoe crab nesting sites, and the other being just across the beach front or the beach surface, they were seeing depletion in the wrack line, but they were not seeing depletion in the pits of the horseshoe crab nests or across the face of the beach.

The thought was – and this will require more work – that the birds may sense a diminishment in eggs ingested at a constant peck rate in the wrack line and choose to move to other more favorable area than stay and switch over to a probing rate at feeding.

Just to refresh people's memory, these are the indices that the Shorebird Technical Committee has been trying to work with, and I'm going to, for the rest of my talk, go through those one by one. The committee did look and review the red knot status assessment of 2007 and the update, but did not review them in detail point by point and felt it was more effective to provide the management board with insights into what we can glean from these indices rather than get into a lot of detailed review of those two reports.

The first one is the threshold weight index. You may have had it referred to as the weight gain index in the past. What we've realized is that the index really is a snapshot of birds that are at 180 grams or more and birds that are not, so it's not really measuring weight gain, per se, in case there is a question about that.

This is the data based on the simple index that was started back in 1997. There is work going on a more sophisticated one that breaks apart the cohorts that come – early cohort of birds that come mid-season and cohort of birds that come late, but that is not ready yet, so that will be coming in the future. As you can see, this one shows a pattern that seems to level off a little bit in recent years at a lower level, but the data is somewhat variable.

2003 is highlighted with an asterisk and that's because in that year the peak count of birds based on the aerial survey was later than the other years, and

so three catches of birds passed the normal cutoff dates that were used in that particular data point. Just for your information, in the report that's in front of you, you have the table that contains the actual data, and just two points about that data.

You'll see that the catches across this period varied – that were used in this index varied from three catches to ten catches, and the number of birds sampled varied from 304 birds to 1,576 birds. In the past and the way this index was originally started, this number, this ratio of birds that reached 180 or above was then extrapolated to the aerial survey peak count, so this figure shows that extrapolation, just taking that ratio and multiplying by the peak estimate, estimate of peak numbers of birds, so that's what these numbers refer to, with the green boxes showing the peak count, and then the derived or extrapolated numbers are the blue bars and the numbers just above that.

Are there any questions to clarify what I've gone over as far as the weight threshold because next I'm going to get into the egg abundance? Okay, the egg abundance index you've been hearing about and wanting to see the data, and now we finally get to see the data, and I want to give a big thanks to Kevin Kalasz with Delaware Fish and Wildlife for taking the bull by the horns, so to speak, and really pushing through and getting this done. He did a yeoman's work in trying to get that done.

The survey has gone on for three years. The survey period is roughly the first week of May to the first week of June. I should say it is the first week of May to the first week of June with the exactly date of the first and the last varying slightly during the year – from year to year. It's measuring the egg abundance in the top five centimeters, and it's pretty clear from the work over these three years that the egg density varies a lot.

It's quite an ephemeral amount of condition that you're trying to measure. There are a number of questions that are being discussed right now. The chief ones are the effect of Mispillion, which you'll see in a few slides, which has outstandingly high numbers of eggs; the correlation that this may show or not show with the spawner survey; the effect of how well this correlates with the spawner survey since Mispillion is not sampled with the spawner survey; and differences in methodologies – even though this was designed as a baywide study, there are some differences between what New Jersey and Delaware is doing – and what effects those may be having on the index.

This is what we get out of the baywide index. You'll see that the error bars indicates quite a lot of variation in this data. There is no significant trend at this time nor would I think you expect to see one with data that has this much variation. Three years is probably not enough time to get confidence in any trend. Because of the questions that are still being debated and discussed, all of this should be looked at as preliminary until some of those questions get answered, particularly the questions about methodology.

One of the questions is how Mispillion affects the rest of the survey in terms of the baywide index. One other thing that was done in the report is to pull out the data from Mispillion and see what that indicates. You can see that it's not changing the general pattern just lowering down the amount, which makes sense because Mispillion does have very high densities.

There was also a question about how well the two sides of the bay are tracking or mirroring the baywide index, and this is looking at the baywide index both with and without Mispillion and comparing that with the Delaware side only, both with and without Mispillion. You can see a similar pattern to what the baywide shows. Comparing the baywide with New Jersey, however, you do see a different pattern or something different is going on.

It's not following exactly the baywide pattern, chiefly just being reduced numbers. The discussion about timing of the spawning survey and how that fits with the bird arrival and use of Delaware Bay is an important one, and it is just as important for the egg survey, so the authors looked at how the egg densities vary over the season. The blue bars are representing 2005, and you can see that it built up very slowly and then had a large peak in Week 6 and 7.

In 2006 the red bars or maroon bars showed a more variable pattern with a small peak and then a larger peak in Week 5 and 7, respectively, and a little dip there in Week 6. Then 2007 are the cream bars, and you can see that there was quite a different pattern with a lot more eggs earlier in the season, particularly Week 4 and 5. Week 5, by the way, has an asterisk to help reference that that is the peak usage by birds. The one thing I do have to point out is that Week 7 only includes Delaware data. New Jersey has not been sampling in Week 7.

To look at the sides of the bay over the temporal season or over the season, that's what this is showing; Delaware up at the top; New Jersey at the bottom. Again, New Jersey didn't sample in Week 7,

so you'll see that they end at six. Also, you'll see quite a difference in the Y-axis because of the different densities of eggs on the two sides of the bay.

If you look at the Delaware, you'll see that the pattern between the baywide and Delaware is very similar, similar across the years and over the season, but you'll see that New Jersey seems to be showing a different pattern. One of the other things that's not as obvious is that the height of the bars across years in New Jersey seems to be going down, indicating fewer eggs or lower densities of eggs over these three years.

Then to get some sense for the variation spatially or beach by beach, here is Delaware by beach for all three years, and you can again see how much greater density the eggs are in Mispillion. Then here is New Jersey by beach. I should have said also in both cases these are going from north to south, so that you have some sense for where the beaches are. And you can see that the pattern is again highly variable.

So, the tentative conclusions that the Shorebird Technical Committee drew from this information is that the baywide index doesn't show a trend, but there are marked differences between the sides of the bay in what the survey seems to be showing. Over the three years, there was a temporal shift to provide greater densities of eggs earlier in the season, which in theory would be better for the birds.

New Jersey I should mention – and I don't have a slide but it is in the report on the egg survey that was handed out – they did some side-by-side work with some earlier egg density work using pit-sampling techniques that they had started prior to the start of this survey so that they could compare it. When they compare it, they see a decline in egg abundance or egg densities on the beaches.

In 2007, looking at mean egg density, except for Mispillion, there were no beaches that were above 50,000. 50,000 has been suggested as a target for egg density on beaches, so that's where that number comes from. That still needs more discussion, but it has been suggested. Any questions on the egg survey before I go on, just clarify?

Okay, the winter counts were also looked – you've heard winter count data before. Down in Tierra del Fuego there was a decline of about 15 percent, from 17,000 and change to 14,000, almost 15,000 birds. In Uruguay in the spring of 2007 there was also a die-off reported. Follow-up work on that confirmed that there were 312 red knots that were found dead, but

there were another thousand birds that were not confirmed as either red knots or not.

They could have been mixed species; they could have been all red knots. That wasn't an exhaustive survey, so the total number of birds that died could have been larger than that total of 1,312. There was also a partial survey down in Florida. Remember there are three main wintering populations, the Tierra del Fuego population, then there is one in Northern Brazil, and then there is one in Florida.

This past winter the Florida one was surveyed but not the full area of survey that had been done in the past. The Brazil wintering population was not surveyed. Logistically the surveys in Florida and Northern Brazil are quite difficult, and it's uncertain whether there could be bird movement or shifting of wintering areas or whether the birds were counted and the population has gone down, but based on the information we have and using the figures for Brazil that we had from previous surveys and just extending them, the total wintering population appeared to be down 30 percent since 2004 and 2005.

New Jersey and Delaware jointly run a peak aerial survey or I should say an aerial survey of shorebirds on Delaware Bay and they extract from that a peak count. That is not showing any increase in the use of Delaware Bay. It doesn't really lend itself to a population estimate but more of a use estimate. This graph is the same as what I had in an earlier slide. All you need to do is look at the green squares, which are the peak survey data. The blue ones, again, are the extrapolation of the weight threshold index.

There is work ongoing to come up with a survival and recruitment index. I'm not sure exactly what the discussion is. I haven't been able to get a good handle on that yet, but that work is ongoing. We don't have any update information on survival or recruitment at this time, however.

The last piece of index that has been brought to your attention and I'll be talking about is the semi-palmated sandpiper versus least sandpiper, and just a little background on that. The New Jersey Audubon, for a number of years, has been looking at weight gain in least sandpipers and semi-palmated sandpipers. The reason for that is the least sandpipers do not feed very much on horseshoe crab eggs whereas semi-palmated sandpipers do.

Otherwise, they're using very similar habitat. It was thought that might give you an index on horseshoe crab eggs affecting semi-palmated sandpipers but not least sandpipers, so you'd have sort of a control

species. That work has been continued to be done, and we got an update on that from Dr. David Mizrahi for this year. It looks like, from the data which I will go to in a second, that semi-palmated sandpipers had a little bit better weight index but not something significant and not showing a trend yet; whereas, least maintained the same pattern that they had been.

This is showing the pattern. In the upper left-hand corner is the semi-palmated sandpipers, and from the early years of the study, which is the straight lower line, you'll see – I mean, the curved upper line, you'll see in the early years that they seemed to be gaining weight at a faster rate than they have done in recent years, which is the straight line. In 2007, which are the open triangles, which may be a little hard for you to see – hopefully, it's large enough for you to see – you can there interspersed mostly in between those two lines. Whereas, the data for the least sandpiper in the lower right, it doesn't show any change over the same time period.

So, in summary the red knot numbers have declined again. There are questions about egg abundance and timing of egg abundance or egg densities. There definitely a shift to earlier egg abundance, but the weight index does not yet reflect an improved condition. The die-off in Uruguay is troublesome and underscores the factors outside Delaware Bay that could be impacting a vulnerable and reduced population. The management actions that maximize eggs still seem to be called for. With that, I'll take any questions.

MR. ADLER: Thank you. Do you have any study, report or anything on the effect of the laughing gulls, which we had pictures of them pushing the red knots out of the way. Also, do the red knots eat other food besides eggs?

MR. BREESE: As far as the gulls, when Larry was here at your last meeting, he addressed that. I remember that same question coming up. I don't have any new information. The gull population appears to have been stable around the bay. They certainly are feeding on horseshoe crab eggs, and they certainly are in some competition with shorebirds. There were some experiments to see if you could exclude laughing gulls and still allow shorebirds to feed.

It sort of worked by excluding everybody where the enclosure was or the line, and it allowed shorebirds to move really close to that barrier and the gulls stayed a little further away. But whether that's effective or not is hard to say, and it would take some more work.

As the red knot population goes down or its food supplies become shorter, it's reasonable to expect that the gulls might have access to more eggs than the shorebirds, but that's just hypothesis at this point in time.

MR. ADLER: The red knots eat other things besides horseshoe crab eggs; is that correct?

MR. BREESE: I was coming to that; that was the second part of your question. Yes, red knots eat primarily bivalves and crustaceans in most of the rest of their range. There has been some work that indicated that in the roost area in New Jersey and Stone Harbor that's what they were feeding on, mussel spat. Certainly, off the coast of Virginia they're not eating horseshoe crab eggs.

They're eating Donax and other foods that they finding, but in Delaware Bay they appear to be feeding pretty exclusively on horseshoe crab eggs. The feeding studies that were done by USGS scientists found a similar rate of weight gain in caged studies with birds that only use horseshoe crab eggs as were seen in the few samples of recaptured birds where you could measure weight gain.

The signature of the food that they were putting on in terms of body weight seemed to match the horseshoe crab eggs. So, Delaware Bay seems to be a very unique situation for red knots; a situation where they're feeding atypically on an atypical food source that is very abundant. How that fits into the worldwide picture of red knots may be unclear, but Delaware Bay certainly seems to be a critical resource and horseshoe crab eggs seem to be critical for them from what we can see.

MR. ADLER: I'm disappointed that since we know they eat other things beside horseshoe crab eggs and we've gone out of our way over past five or six years to make more horseshoe crabs available to them, and yet in spite of our efforts we seem to still have this decreasing number leads me to believe that there are other issues other than horseshoe crab eggs at this supposed decline of the red knot. It's disappointing when we go as far as we go to try to help them out and then they're still going down. It's almost like, well, we did our part; I don't know what the other part is. Thank you.

DR. LANCE STEWART: Thank you, Mr. Chairman. Looking at the egg survey and to follow up some more on Bill's question, the in fauna that are there and would be encountered in this study aren't even graphed, the number of mollusks, the number of

polykeats, the isopods, the culpapods. That would be extremely important to know what in the complex would give an alternative diet. Egg diameter isn't even mentioned in here or estimates of what a feeding volume should be for the birds.

I've questioned all through this process in horseshoe crab management whether we really have empirical information on the stomach contents of the red knots at the site that we're trying to recover. I hate to ask that question, but I asked this about four years ago. It seems as scientists, when we have 30 or 40,000 birds around, we could sacrifice ten or twenty and do a stomach content analysis to see whether they're relying also on the other in fauna, as they are in several other states. That's just my concern.

MR. BREESE: Well, I can address that a little bit. A number of years ago, I think maybe 12 or 14 years ago, that type of work was done by Dr. Tsipoura, looking at stomach contents or crop contents and finding that there was variation among the species and that red knot was the one that was feeding almost exclusively on horseshoe crab eggs. There has also been some work to see what other food sources are available.

Where the red knots are feeding, horseshoe crab eggs seem to be about – there is a small amount of other things but certainly not enough to support the numbers of birds that are feeding in those areas. I think it's pretty broadly accepted by a wide variety of scientists that the red knots are feeding pretty exclusively on horseshoe crab eggs, and that is critical to their weight gain while at Delaware Bay; not true in other places like South America stopovers where they're feeding on other things, but in Delaware Bay that seems unique and critical to them.

MR. ERLING BERG: Thank you, Mr. Chairman, I have two questions. The first one would be do you have any idea what caused the die-off in Uruguay; has that been determined?

MR. BREESE: That was something that people would really like to know. The best guess at this point is that it was red tide, but that's based on just observations and what happened. No testing has been done. Unfortunately, they were discovered at a state of decay that didn't allow that type of work. The people that discovered them, while they reported them, they didn't take samples. It's a question.

MR. BERG: Thank you. The second one would be the 50,000 eggs per square meter, how was that

determined? Was that ever available or is that just an arbitrary number that came up?

MR. BREESE: The 50,000 target was based on an estimate of what had been available in the past. And as I said, it's still up for discussion, but it has been proposed as a threshold in some work by some authors and may be a good one; I don't know.

MR. JACK TRAVELSTEAD: Thank you, Mr. Chairman. Greg, my questions go back to the Niles' report, the February 2008 update on the status of the red knot. Staff provided us with that update and they also provided us, a few weeks ago, with a partial review of that document by the technical committee, which seemed fairly critical of a number of the statements made in the update. Today I see what looks like a memo dated March 17th from Hallerman and Hata that is equally critical of a lot of what is contained in that update. I'm just wondering is there going to be any rewriting of that status update or any modification to respond to those peer review comments, and who provides the funding for that status update?

MR. BREESE: That update was done by the authors. I don't know what the funding was from. They volunteered that. As far as I know, I have not heard of any indication that anybody is planning to do a revisions or further updates to that, but that would be up to the authors. That's all I have on that.

MR. AUGUSTINE: Thank you, Mr. Chairman. All the comments that have been made relative to the reports and what we have been driving people out of business about is finally getting to a point where the massive incredible, insufficient, peer-reviewed information that we've made hard decisions on to protect the red knots is at a point in time where it just seems to me we're doing a tremendous amount of damage to all the people that have depended upon this horseshoe crab product as a fishery or business.

It just seems to me the basic question still that remains to be asked, has anyone taken into consideration what the die-off was two or three years when they never hatched out in Alaska or Canada; what was the weight that had and impact on the overall population? I've asked the question several times as to what number of birds have left each one of the locations from start to finish and returned, to get an idea as to what is it we're trying to fix and can we fix it?

I've asked the question of are there adequate eggs left on the beach after the red knots have come through,

whether they decided to move on their own or whether nature drove them to move on. All the answers come back the same way, well, we either don't know or we're questioning how the information was put forth.

I'm not asking questions to challenge the Shorebird Technical Committee's review, but it just seems to me we keep squeezing and squeezing the folks that have had small businesses. We keep reducing the quotas. We've had states that have shut down their fisheries. On the one hand, it's an advantage to those states to allow the horseshoe crab populations to continue to grow and be protected by law.

On the other hand, it's allowing our fishermen, our horseshoe crab guys, to benefit from this situation where we now have horseshoe crabs leaving our state in great numbers. Again, we're going to have to put the crunch on New York again. Massachusetts showed an increase, and I'm sure the horseshoe crabs are being moved down to Virginia and Delaware to support the needs of their fishermen.

So, it just seems a lot questions keep coming up, and the basic one that has to be answered is when does this end? If we have enough eggs left on the shoreline, if the birds seem to leave of their volition and arrive at their own volition, supposedly tied when the moon phase comes around and so on, we continue to have a demand for products in the biomedical, we continue to have economic impact on the fishermen who are being displaced, we don't see a gain in the red knot population, we say that the blackback gulls and other gulls continue to thrive and maybe they're not increasing in –

CHAIRMAN BOYLES: Pat, do you have a question for Greg or is this a discussion, if you could?

MR. AUGUSTINE: The question is when are we going to get a recommendation from the advisory panel that takes into consideration all these other concerns that will allow us to make – I want to say – an honest decision that not only protects the birds but protects the fishermen? I'm not sure you can answer that question, but I wanted to get it on the record, Greg. Thank you.

MR. BREESE: Well, it sounds like you're asking me what the management board should decide.

MR. AUGUSTINE: Yes.

CHAIRMAN BOYLES: Any other questions for Greg? Rick, I see your hand but we've got to roll on.

If you have a question for him, you can ask him off-line, okay? We do need to roll on. Greg, thanks for that report. Mike, the technical committee.

HORSESHOE CRAB TECHNICAL COMMITTEE REPORT

MR. MIKE MALLARD: Thank you, Mr. Chair. It's always popular to launch into a deep stock assessment discussion at 5:30 in the evening. I understand the hour is late and people are tired, so I'll move right along. Most of this, I think, is going to be redundant from what you've heard today already. Most of it, fortunately, is good news with respect to the horseshoe crab population.

There are three things I want to share with you this evening. One is the status of the Joint Adaptive Resource Management Team for the Horseshoe Crab/Red Knot Integrated Modeling. I guess I would answer your question, Mr. Augustine, that that is our fervent hope and desire that that process there will allow us to get an honest answer to your question and hopefully sooner rather than later.

Then I'll launch into an update from the stock assessment subcommittee that they performed this year on the horseshoe crab populations in Delaware Bay using the most recent data available; and, finally, I'll finish up with our comments, the Horseshoe Crab Technical Committee comments on the Niles' et al 2008 red knot status update.

One thing I can answer, to circle back with you, Mr. Travelstead, the Fish and Wildlife Service, my agency, did not fund the status update. They did, of course, solicit and fund the states report, the larger status report in the first place, but this update I believe was an unsolicited product from them out of their own pocket, is what I understand.

Okay, so moving right along, one slide on the Adaptive Resource Management Workgroup, fortunately in the past few months, due to some hard work by some folks, we have secured funding both from NFWF and the Joint USGS/Fish and Wildlife Service Science Support Program. A post doc was interviewed; a couple were interviewed. One came, I know, to the east coast and talked with our folks and was hired and will start very soon.

The chairmen for that modeling workgroup are Dr. Dave Smith, who is in the back of the room with us today – if you have some questions, more detailed questions about this process, I understand from the chairman that it's okay for Dave to come to the

public microphone and answer those questions, if you desire – and Dr. Jim Nichols, both from USGS. The post doc I guess will sit at the USGS Patuxent Wildlife Research Center in Patuxent. Oversight, of course, is being provided by the two technical committees, chaired by Greg and myself.

The schedule, which looks fairly ambitious but hopefully we can close to meeting it, is by early winter – through early winter model development will be ongoing and model testing. Over the winter they would run those results through a joint meeting of the two technical committees, and late next winter, I guess, there might actually be some model-based recommendations coming out of that. I think that's an ambitious schedule; it's something we'll shoot for.

The good news is that with the amount of funding we've secured, I believe we can keep this post doc at least through 2010 or at least half of 2010; and if we don't meet this schedule, he's still on board with us and we can continue to work. Again, if there are questions on that, we can call Dave Smith to the table I think if you have more detailed questions.

Now we get into a little bit of an update from the stock assessment subcommittee. I'm going to term is mostly a meta-analysis of the existing data. We won't get into the weeds at all. These are the indices, the fishery-independent indices. There are 13 of them here from the Delaware Bay area. The ones in yellow are highlighted because they, indeed, have a significant, positive trend from 1999, for the most of them, through 2007.

You can see that three out of three that catch juveniles all indicated a positive upward trend. Three out of the four for males indicate a positive upward trend and one out of the four for females. I think, as most of you are aware by now, this makes sense, we think, in terms of the life history of the horseshoe crab and the timing in that due to the actions you folks have put in place in the last few years.

Of course, we see the juveniles coming up in the pipeline first; males mature a couple of years earlier. We see them in the spawner survey showing up, the adult males, and then hopefully, as a couple of more years go by, the females will start to show up, increasing in these indices, too. So that's good news, we think.

Here's sort of, again, a meta-graph of the six – you can barely see – the light gray is not important. Those are the six sort of background indices in the Delaware Bay Region, and then the heavy, black line

is the standardized average of all those, and it makes the pattern that we come to expect. We knew in the late nineties and the early 2000s things were down; and then as the management actions took hold, we're on the ascending limb now; again, which is good news.

That little table up top – it looks like it's hard to see – those are some other indices that are from the Virginia Tech Trawl, the Baywide Tagging Study and the Delaware Bay Spawner Survey, which, again, as you've seen earlier today, adult females stable or increasing, mixed message. Adult males are on the increase and juveniles are on the increase – all pretty good news, we think.

A quick and more corroborative evidence of this general trend is we updated the surplus production modeling. The blue lines are the ratio of biomass for males-to-females in both sexes; biomass to BMSY, such that ascending blue lines is good. Biomass is increasing with respect to BMSY. The red lines are F fishing mortality with respect to FMSY.

So a descending, again, is positive news in the sense that F is decreasing with respect to FMSY. So, these are good news, and you can see roughly, again, late nineties or early 2000s things were in the worse shape that we've seen for the data we have, and 2003, 2004 things turned around and are going in the right direction now.

Okay, and the last part – and you've heard a little bit about it – we feel compelled to respond to the status of the red knot update that was put out in February 2008. Of course, it wasn't confined to the red knot. It did spill over into the horseshoe crab end of things, much of which we feel was flawed, so we did a fairly serious review of the horseshoe crab portion of it. We're not commenting on the red knot portion of it but only the horseshoe crab portion of it.

Our five major points are listed here. I wish it was larger, I'm sorry, is the current egg index that they used in this status update, a good measure of egg availability. We'll talk about that. There appeared to us to a selected presentation of horseshoe crab data that indeed failed to recognize the multiple lines of evidence that I just showed you that indicate that the horseshoe crab population, in fact, has turned around and is going in the right direction in the Delaware Bay.

There is an overinterpretation of year-to-year variation in one of their tables they present. There is a claim that appears to us to at best to be arbitrary

and capricious about how the current horseshoe crab abundance has to increase by an order of magnitude before things are what they would consider back to the way they used to be. We're not sure the data support that. There a surprising inconsistency with their language regarding the male horseshoe crabs.

So I get through this without getting into the weeds too much. Their egg abundance data are these two lines right there, and they show – although it doesn't say in the report; a little investigation found out that they chose to standardize on 2005, make that 100 as sort of the maximum level, and then standardize the '06 and '07 and '04 data off that '05 data. We know, of course, that '05 – with respect to egg availability to shorebirds, '05 was one of the worse years on record.

If you look at this graph here, this is the '05 data here through the sort of horseshoe crab spawning season. Shorebirds leave at the end of May, somewhere in the middle of that graph, so most of the horseshoe crab spawning occurred – in '05 occurred after the shorebirds had left; and thus to us makes not much sense to base an egg abundance index for shorebirds on the '05 data. The '07 data, the green line, and this is '07 and this is '06; things are a little better in terms of egg availability, of course, for shorebirds then.

Spawning occurred earlier in the year and it was a better situation. So, the use of '05 as a scaling index in the update report was puzzling to us; probably not optimal. There was a general disregard or ignorance of, again, all these positive signals that I just talked about. The Virginia Tech Trawl Surveys are very encouraging. Things have gone up in the offshore trawl survey very promising.

The spawner survey is stable to increasing for females; increasing males. These trends are not given much say in the status update report, '08 status update report. These trends that I've already shown you for the most part don't show up in the report. There is a passage in the report that talks about a year-to-year variation, and they say seven-to-tenfold increase in 2006 and 2007, and that's based on a 2005 point estimate. I think everyone around this table knows that it's a dangerous business of taking point estimates at face value and then overinterpreting them in saying seven-to-tenfold increase.

It's what appeared to us to be a disregard for sampling error overstatement, in our opinion. And then they talk about the comparison of the Delaware Trawl Survey and it was not corroborated by the

Virginia Tech Offshore Trawl Survey. It's our opinion, and I think it's that these two gear are sampling different populations for the most part and are different gear themselves so we wouldn't expect – well, we would expect the trends to be the same. We wouldn't expect the magnitude to be exactly parallel or consistent with each other.

There is a claim that the scale of recovery of the horseshoe crab population is they need an order magnitude increase to the levels of the early 1990s. We're not sure where this order of magnitude metric comes from. Any data that we know about from the early 1990s, if we look at that in the late nineties or the early 2000s, indicate that there may have been a reduction of perhaps three or four times, and that, of course, has been followed up by these recent increases that I've already talked about. So, again, it might be a little bit of an overstatement to talk about an order of magnitude.

And there is a surprisingly – when they say the increase in males is indeed an indication that the population might be recovering, but females lay eggs so an increase in male crabs is largely irrelevant to the birds. To us that's a surprisingly flip dismissal of the health of the horseshoe crab – a good metric of the health of the horseshoe crab population. There was, of course, a lot of discussion over the male harvest and how that was harmful to the population, so to now dismiss them in this sense seems somewhat incongruous to us.

So, with that said, I'm just going to leave you with this picture of our reported harvest for Delaware, New Jersey and the mid-Atlantic and finish with a statement here that I have on script. Brad hates it when I go off script. It is our opinion that this emerging – and this has to do with mostly what I just talked about with shorebird folks and horseshoe crab data.

It is our opinion that this emerging pattern of having shorebird biologists forward analyses and conclusions about horseshoe crab population status and trends, many of which we believe are flawed to some extent, and then to have this followed by the Horseshoe Crab Technical Committee reviewing and clarifying these efforts for you folks, the managers, is neither necessary nor helpful.

I guess I am somewhat parochial to the extent that I feel the horseshoe crab biologists should be doing the horseshoe crab analyses and the shorebird biologists should maybe contain themselves to the shorebird analyses. To a large extent we also feel the same

way about the treatment of horseshoe crab egg data in Delaware Bay. The adoption of a standardized analysis similar to the Horseshoe Crab Spawner Survey would simplify the analysis and ensure rigor, repeatability and transparency regardless of who performs the analysis.

And if I understood Greg correctly, it seems like we are moving in that direction, and that indeed is a good movement. I applaud that. Independent scientists who are the ones that forwarded this status update that I just commented on are, of course, free to forward any analysis and conclusions that they want in whatever venue it will take them. Again, I want to stress that red knot update is not a product of our Shorebird Technical Committee.

However, many of the primary authors, of course, on that product are Shorebird Technical Committee members. Nevertheless, despite these sometimes confusing signals, I think we need to commend you folks as board members and the managers, in the face of these signals, for taking actions in the recent past that have resulted in the trend reversal and the positive signals that I've just discussed today. I'll conclude with that.

CHAIRMAN BOYLES: Mike, thanks for that report. Do we have questions for Mike? Jack Travelstead and then Roy.

MR. TRAVELSTEAD: Thanks for the report, Mike. I appreciate the good news. Could you go back to some of your earlier graphs that show the upswings in the biomass? Of course, you described that as good news, and it certainly looks good news to me. I guess my question is it looks like the most recent values are either at or very close to around 1990 values. I guess I'd be interested in knowing how much more of an increase do we need to see before we're satisfied with the results.

MR. MILLARD: Well, you'll note that we have purposely left off the Y-axis on these. We did that on purpose. There are some issues with production modeling that lead us to that. For instance, the estimates for biomass it is our understanding are generally not that accurate, so to put those on a scale could be misleading.

I think your question is a value judgment; when is enough good enough, and I'm hoping that our Adaptive Resource Modeling Group will give us some integrated clues to how much can be harvested with respect to producing enough eggs to support enough shorebirds. I think we are hanging our hat on

that output on which to make fully informed decisions. But, you're right, for the most part the F over MSY values have returned to early 1990 values.

MR. ROY MILLER: Thank you, Mr. Chairman, and thank you, Mike, for the report. My question is a simple one; namely, can we get our hands on a copy of this technical committee report, either the electronic version that you've shown today or perhaps the intention of the technical committee is to craft a written report for our review. Thanks.

MR. MILLARD: Well, the technical committee received a short report from the stock assessment committee on which much of this based. Are you referring to that or which exact report?

MR. MILLER: I think what I would like is the opportunity to review the information you presented today at my leisure at some time in the future, and I'm just wondering when I might be able to do that. Thanks.

MR. MILLARD: Okay, we can distribute this powerpoint, I would imagine.

REPRESENTATIVE ABBOTT: Mike, you showed a slide earlier that showed in 2005 the fact that the horseshoe crabs arrived late for spawning. I thought that was quite a constant thing. What causes the variability? The birds depend on it, they arrive at a certain time, and I thought it was connected with the moon and the sun and the stars in the sky and all of that.

MR. MILLARD: I believe the weather and water temperature has a lot to do with it. Colder temperatures will delay the spawning until later in the season. Also storms and rough water is a disincentive for mass spawnings and will delay the spawning. They'll hold offshore until better conditions. But in a seasonal sort of thing it's water temperature dependent, we believe, in large part.

REPRESENTATIVE ABBOTT: So in this instance we're showing almost what, a three-week difference? That's quite a lot; isn't it?

MR. MILLARD: That's correct, and we have more graphs with more years and there is actually a wider spread than that.

CHAIRMAN BOYLES: Any other questions for Mike? All right, seeing none, we'll move on. Mike, thanks for that great report. The next item on the agenda is Brad's presentation on Draft Addendum V.

DRAFT ADDENDUM V PRESENTATION

MR. SPEAR: Thank you, Mr. Chairman. The Draft Addendum V for board review was distributed on the briefing CD. If you need copies, there should be some down at the table. Just to go through the timeline for this addendum, the board initiated the addendum back in February of this year. Between that meeting and this meeting, staff drafted the copy that's in front of you.

Today we're looking for the board to review the draft and accept the options that will go out for public comment. If that is the case at this meeting, then we'll anticipate public hearings and public comment period this summer with a final report back to the board at the August meeting, at which point you can make your final decision on the document. Then implementation will be anticipated for some time this fall.

I'll run through the options that are in the addendum. The first one is for New Jersey and Delaware. They're both the same for each state. Option Number 1 for each state is status quo, and effectively that would revert regulations back Addendum III, which are a closed season from May 1st to June 7th and a 150,000 crab annual quota. That is both male and female crabs.

Option Number 2 would extend the Addendum IV provisions for a period of one year. To remind folks, the provisions are a closed season from January 1st to June 7th and a 100,000 crab quota, male-only harvest. A third option for New Jersey and Delaware that the board instructed staff to include is a full moratorium for each state for a period of one year.

Looking at the options for Maryland, status quo; again, would revert back to Addendum III and establish a closed season from May 1st to June 7th; keeping their quota at the same level. Option Number 2 is to extend the Addendum IV provisions for a period of one year, and that would be a closed season from January 1st to June 7th; again keeping their current quota.

And Virginia, status quo would be indefinite; a combination of measures, including a prohibition of landings from federal waters from a period of January 1st to June 7th; and the provisions that no more than 40 percent of Virginia's total quota harvest come from east of the COLREGS line, so that outside the Chesapeake Bay; and that maximum of 40

percent harvest comprise a minimum male-to-female two-to-one ratio.

Option Number 2 for Virginia sunsets that provision at the end of one year. Again, that's a prohibition of landings from federal waters in Virginia from January 1st to June 7th, and the harvest restrictions from east of the COLREGS line.

The board also asked staff to include options to extend the provisions of Addendum V through a board vote. At this point status quo, to make any changes to this addendum would require another addendum. Option Number 2, again, would be adaptive management through board vote, essentially giving the board the ability to extend measures of this addendum for a period one year.

The current compliance dates in the document – and this is open for board discussion – are September 1, 2008, for states to submit implementation plans for the provisions adopted at the August board meeting, with implementation of those plans by October 1st, 2008.

CHAIRMAN BOYLES: Brad, thanks for that. Any questions for Brad on the presentation?

MR. MILLER: It's just a comment. The usage of the terms "status quo" I'm afraid could mislead the public a little bit. In the case of Delaware, Delaware's regulations extend through the end of the calendar year even though the plan calls for the end of September. In New Jersey's case, as everyone knows, there are at a full moratorium as imposed by their legislature, so the term "status quo" I think is a little confusing in this case. We might want to clarify a little better in what goes out to the public. I may have a suggestion, as well, concerning Maryland, but I'll let that go for now. Thanks.

MR. ADLER: Thank you, Mr. Chairman. After what I've heard today, I'm wondering why are we doing this. Is it true that something expires in September, if this doesn't go in; and so, does it revert to the previous addendum; is that how it goes? Then I would have to ask these affected states, if this something that you want to take out to public hearing or do you want the thing to expire, because I don't see any reason to go through this again? Maybe you could ask the states if this is something they really want.

CHAIRMAN BOYLES: That's a good point, Bill, and you're right, this does expire September 1, 2008, and so that's what reverts back to status quo of Addendum III. I think Roy makes a good point of

this was a temporarily constrained addendum for two years. I think that is a good question.

MR. TRAVELSTEAD: I was, in part, going to respond to Bill's question specifically for Virginia. We are in support of the measure that you see described there for Virginia. We do want to continue our current regulations. We don't want to drop back to the previous addendum. We've seen Mike's presentation and the good news that it shows, and we think part of the reason for that is the regulations that we have in place, and we'll continue to see improvements.

Do I think those regulations are going to be necessary indefinitely? No, I certainly hope not, but we'll have to wait and see when the ARM report comes out and what else might need to be done or what less can be done. With respect to Virginia, yes, we want to see this document go forward.

But that begs another question that I would have for Delaware and Maryland, and I'm just curious how comfortable Delaware is with the Option 3, full moratorium being under there. I know you all have worked hard to avoid a moratorium and seem to have regulations in place that are working and provide quite a bit of protection. I'd be curious to know what your thoughts are there.

Then for Maryland I know that you had some discussions about potential other measures that you might take in the way of male-to-female ratios, and I'm just wondering whether or not you're thinking about including any of those measures in this addendum or are those things you'd prefer to do outside of the addendum.

MR. HIMCHAK: Just to follow up on what Mr. Adler asked, when we developed Addendum V it's my impression that we developed it as like a placeholder to keep the current regulations in place for one year as the joint technical committees were developing the model to give us the answers for future direction. That's my understanding when we passed the motion to develop this. The motion did include an option for a full moratorium for just the states of Delaware and New Jersey. This was back at the last board meeting. I mean, it's just an option for public hearing.

CHAIRMAN BOYLES: Bill, I think to answer your question I think what I'm seeing is that there is some desire to move forward to this discussion. Am I seeing heads shaking? All right, what I'd like to do is I've got several of the folks have asked to talk.

The way I count it, we've got four different issues that we need to consider to put in this document for public hearing.

Those four issues are for measures for New Jersey and Delaware, Issue 1; Maryland, Issue 2; Virginia, Issue 3; and Issue 4 is the option to extend the management measure by a vote of this management board. What I'd like to do is move through those things sequentially, if it pleases the board, just so we've got everybody on the same page and we don't see too many things going at once. Eric, you had a question. I have got you and then I do want to come back to Jack's request of Delaware and Maryland.

MR. ERIC SMITH: I was actually going to comment or actually offer a motion on the addendum in the sequence that you're talking about. If you would rather get the comments of the affected states first, I'll be happy to hold off.

CHAIRMAN BOYLES: Roy or Harley, do you guys want to comment on Bill's comment earlier and Jack's request?

MR. MILLER: Bill, just to briefly address your comment, yes, I do think this is worth pursuing. And to respond to Jack's request, Delaware is not presently pursuing any additional rulemaking, Jack, beyond where we are at the moment, which are the ASFMC Addendum IV requirements. That does not constitute a promise, however, and I can't anticipate what might come up between now the imposition of a new addendum, but we're not presently pursuing any additional action in that regard; at least my department isn't.

MR. SPEIR: I don't know that I can right say right now whether or not we would have further measures such as a regulated male-to-female ratio. You look at those surplus production models; and if we looked at that for any other species, we'd say, "Mission accomplished, let's settle on this set of regulations that we've got now." I don't know that I can give you an answer now.

MR. SMITH: Thank you. Just to preface for a moment, what I've heard today and read in the handouts raises significant doubts in my mind regarding the need for further restrictions beyond where we stand right now. I think my view is staying the course seems justified, and I see no value in generating false hopes in one segment of the interested public that we might actually go in direction and implement a moratorium, and at the same time I don't want to raise the fears of the other

segment that we're going to go forward with a moratorium.

So having that in the back of my mind, I move that we strike Option 3 of the New Jersey/Delaware section of this addendum and limit ourselves to getting public comment on either reverting to the previous addendum or staying with the current one, which is Option 1 and Option 2.

CHAIRMAN BOYLES: Motion by Eric Smith; is there a second?

MR. ADLER: I'll second.

CHAIRMAN BOYLES: Discussion? Pete.

MR. HIMCHAK: This brings up a parliamentary issue, I guess, because we passed a motion at the last board meeting that would specifically include the option for a moratorium in Addendum V. What is the procedure now for removing an option that we already approved to put in the document?

CHAIRMAN BOYLES: Pete, my read on it was just to include it for this document that comes to you today. If you still want to include it, we can discuss it and if necessary vote on it to go to public hearing is the way I read that. Brad, is that correct? Yes, at the point the board can take out or put in any option that we'd like is the way I see this.

We've got a motion and a second. Any further discussion? Any opposition to the motion? All those in favor of the motion, raise your right hand; all those opposed, same sign; abstentions; null votes. The motion carries 10 to 1 to 2 to 1. That is 10 in favor, 1 opposed, 2 abstentions and 1 null vote.

MR. MILLER: Mr. Chairman, I'm going to go out on a limb here. I'll tell you what makes me uncomfortable about the action just taken. The action just taken fails to recognize the legislative body of New Jersey and the governor of New Jersey, the action they already took. I really wonder if the commission wants to put itself in a position of doing that. I'll let Pete say anymore about that, but I'm uncomfortable with the action we just took and frankly don't approve of it. Thank you.

MR. HIMCHAK: Well, Mr. Chairman, my only comment is that in Addendum V it essentially runs the range from liberalizing the harvest of going back to Addendum III quotas and restrictions and maintaining the current status and then being more restrictive. I had asked that it put in there as an

option, recognizing that, yes, we had already – by the state legislature had already put in a moratorium in New Jersey. Again, it's an option for the public comment process. That is my intent to keep the option in there; however, we have a null vote from the state of New Jersey on the issue.

REPRESENTATIVE ABBOTT: That being the case and would have desired to hear that argument prior to the vote, I would like to make a motion that we – having voted on the prevailing side, I would like us to reconsider our previous action, and I'd ask the board members to support that motion.

CHAIRMAN BOYLES: We have a motion to reconsider. Is there a second? Second from Roy Miller. Discussion on the motion? Mr. Calomo.

MR. VITO CALOMO: Just a question. Does that require a two-thirds vote?

CHAIRMAN BOYLES: No.

MR. SMITH: I knew before this last meeting of mine was over that I would do something like this. It as may as well be this species. Let me explain why I, in appearance, stepped on the toes of New Jersey and Delaware, because I'm from neither one of those states. There are two very important distinctions in what we're doing versus what New Jersey did, in my mind.

Our time-honored principle in this commission is a state can always be more conservative if it so chooses, and New Jersey clearly has already chosen that. The addendum and the fishery management plan is what the commission sets forth for the whole coast and as the baseline of the management program for all areas under its jurisdiction. New Jersey has already chosen to go further, and I respect that. They went through their legislative process and that's fine.

I don't think we have a problem explaining to the government of New Jersey that we're setting a baseline for management and they have the perfect right to go further. What I don't want to do in this process is go out and raise false hopes either way in the public that either we can have a hundred people carrying placards to save the horseshoe crabs during our public hearings and another hundred people in the same room saying save the fishery with their placards if we don't genuinely think it's necessary to set that as the baseline for management, and in this case in Delaware Bay, which is why I offered the motion. I'm happy to hear their arguments pro and

con for reconsideration. I think that's healthy, but that argument has not persuaded me. Thank you.

MR. SPEIR: In general our options that we lay out comport with what our science and our social setting says. The moratorium, although it may be politically expedient, does not appear to have a scientific basis, and do we indeed need to have those kinds of options in a management plan that we hope is based on reason?

MR. HIMCHAK: I would have to argue with Harley about no scientific basis for the moratorium because that's what was promulgated and recommended by our legislature. I don't understand why management options for two specific states should not go out to a public hearing because states outside of that region essentially are afraid of what, false expectations? I don't understand that.

REPRESENTATIVE ABBOTT: As far as not disagreeing too much with Eric, but the state of New Jersey already has a moratorium, so leaving that as an option in an addendum going out for public comment shouldn't be the worse thing in the world. I mean, it's not like it's a new thing or something that they should be that alarmed – will be that alarmed about seeing. They already have a moratorium.

MR. TRAVELSTEAD: A question for New Jersey, which they don't have to answer, but if we put Option 3 full moratorium back into the document and we went to public hearings and there was overwhelming public support for no moratorium but for the other measures, would the New Jersey legislature reconsider their moratorium?

MR. HIMCHAK: I'm inclined to say no, but I'm hesitant to speak for the legislature.

MR. AUGUSTINE: Mr. Chairman, may I call the question? We've had a very healthy debate on this issue.

CHAIRMAN BOYLES: This is a good discussion. There is a motion on the floor to reconsider by Representative Abbott and seconded by Roy Miller. Let's call the question. The motion to reconsider the previously approved motion, all those who would like to reconsider, raise your hand –

MR. SMITH: We don't do this very often. The motion to reconsider is simply to give everybody the opportunity again to vote on the issue that passed one way, which is why I'm saying if you want them to

have that opportunity again, fine; then if not, you vote no.

CHAIRMAN BOYLES: Everybody got that? If you want to vote again, revote on the option to take – on striking Option 3, raise your hand – all right, as Eric so adroitly pointed out, this is a motion to reconsider removal of Option 3. It's a two-step process; it will take us back to vote again. Motion to reconsider, raise your hand; all those opposed. The motion failed. Okay, a null vote on the reconsider, New Jersey. The motion failed.

Okay, we've got options now in the document that's going for public hearing. For Delaware and New Jersey, we've got two options. Is that sufficient? We'll move on. Issue Number 2, the Maryland management measures. I'm looking for a motion on the Maryland management measures or consensus. We have two options; the status quo, which will revert to the measures of Addendum III; and Option 2 would prohibit the harvest and landing of horseshoe crabs in Maryland from January 1 through June 7th for one year. Roy Miller.

MR. MILLER: Thank you, Mr. Chairman. I'm to look to my colleagues from Maryland for some support in this and pose it as a question for the moment. There has been some sidebar discussion between our jurisdictions concerning the concept of a one-to-one or perhaps even a two-to-one ratio of males to females and whether such a scenario would be acceptable to the Maryland commissioners to this body.

Therefore, I think I would like add to the proposed measures for Maryland a one-to-one male-to-female sex ratio and also a two-to-one male-to-female sex ratio. I'd at least like to make that motion to add those for consideration. Thank you.

CHAIRMAN BOYLES: A motion by Mr. Miller; is there a second? Roy, can you restate that?

MR. MILLER: Move to add to the Maryland proposal a one-to-one sex ratio harvest proposal – by sex ratio I mean males to females – and a two-to-one sex ratio harvest proposal.

CHAIRMAN BOYLES: Roy, you're proposing this to be a third option as it's currently written in the document?

MR. MILLER: I guess it would be a third option.

CHAIRMAN BOYLES: Third and fourth option. There is a motion by Mr. Miller; is there a second? Eric Smith seconds. Discussion?

MR. SMITH: For clarification is this intended to be from June 8th onward, either a two-to-one ratio or a one-to-one ratio; is that how you see it?

MR. MILLER: The intent of my motion was to – that this would pertain to the period of the year when they're presently harvesting, which my understanding is June 8th to the end of the calendar year.

MR. G. RITCHIE WHITE: Roy, has the technical committee weighed in on this?

MR. MILLER: Since you asked me, I can't answer that, I don't know. I'd have to refer to Mike if he has some guidance in that regard.

MR. MILLARD: Could I get you to repeat the question? We haven't weighed in on that in a formal way, no. It's something we could take up.

MR. R. WHITE: A followup; I think something of that type of magnitude, I would think should be run before the technical committee would be my recommendation.

MR. SPEIR: The advice that we had received from the advisory committee was that if we did go to a two-to-one male-to-female sex ratio, that we would increase our overall quota to 200,000 crabs. I would like to see that part of that two-to-one ratio. That also could be examined by the technical committee.

CHAIRMAN BOYLES: Are you offering that as a friendly amendment?

MR. SPEIR: Yes.

CHAIRMAN BOYLES: Roy, do you accept that and Eric do you accept that as a friendly amendment? Discussion? The motion is to add to the Maryland proposal as Option 3 a one-to-one male-to-female sex ratio harvest proposal; and as Option 4 a two-to-one male-to-female sex ratio harvest proposal. And for both of those options, Option 3 and 4; is that right, Harley – okay, and for Option 4 would increase the quota to 200,000 crabs. Has everybody got that? Pat.

MR. AUGUSTINE: Mr. Chairman, just a point of clarification. Now, Mike, did you say that you could supply this information in a timely manner so that we would have some background on this or are we just

going to make the assumption that if it goes out to the public and they come back say let's do it, then you give a report and it's not copasetic? What's the action here that's going to take place?

CHAIRMAN BOYLES: The action here is to include this in the document that goes to public hearings. The technical committee, I suspect, could comment on it after it goes to public hearing?

MR. AUGUSTINE: Well, point of clarification, before or after? I mean, in your mind is it doable; and as you indicated, the technical committee has not reviewed it, so we're making another offer out there. Similar to the moratorium issue, it will have an effect on the population of the stock, so what is your opinion?

MR. MILLARD: Whether we meet as a body face to face I'd have to talk to the commission about, but I guess we could do this over e-mail in a reasonably efficient manner. What timing are you proposing, before the public comment?

MR. AUGUSTINE: Well, I thought that would be more appropriate than just putting it out there. For instance, if it came back and it wasn't quite as positive as it looked like it might be and your recommendation is, well, we're not sure or maybe we shouldn't do that, then I think we've got ourselves in a little bit of a bind because the public has, again, the presumption that, whoa, we can do this. I don't think we want to go there.

MR. ROBERT E. BEAL: Thank you, Mr. Chairman. There are two courses of action that the commission has taken when confronted with kind of late additions to addenda. One is that Options 3 and 4 can be added into the document without technical committee review, but there would be a note in the document that says the technical committee is currently reviewing these two options and will present the impacts to the management board at the August meeting.

The other one is the obvious one which is wait for the technical committee to review these and then include the description of the impacts in the document. The tricky part for staff comes in if the technical committee reviews this and there may be a negative impact, I'm not sure, does the board still want those options included in this document to go out to public hearing, and that requires another decision by this management board. There are a couple of courses, but having a quick technical committee review and then including it has been problematic in the past.

MR. R. WHITE: I think this is a backwards way to go. It's got to go to the technical committee first, in my opinion. I think it's unfair to the public to send this out and then have it come back; and if it had strong public support and we get something from the technical committee saying we really shouldn't be doing this, that's not fair to the public, I don't believe. I'm not going to support this.

CHAIRMAN BOYLES: Further discussion? All right, we've got a motion to add to the Maryland Proposal a one-to-one male to female sex ratio harvest proposal as Option 3; and as Option 4, a two-to-one male to female sex ratio harvest proposal and an increase in the quota to 200,000 crabs. Caucus, 30 seconds.

(Whereupon, a caucus was held.)

CHAIRMAN BOYLES: All those in favor of the motion, raise your hand; all those opposed; abstentions; null votes. The motion fails. Any other additional discussions on Maryland? As it stands, we will include those two options, Options 1 and 2 as presented to the board. Any further discussion? We will move on to Virginia.

MR. TRAVELSTEAD: Do you need a motion?

CHAIRMAN BOYLES: Yes, Jack.

MR. TRAVELSTEAD: Motion to accept the document as presented for Virginia.

CHAIRMAN BOYLES: Motion by Travelstead; second by Pat Augustine. Any discussion? No discussion, all those in favor of the motion, raise your hand; opposed; abstentions; null. The motion carries. Representative Abbott.

REPRESENTATIVE ABBOTT: Thank you. My fellow commissioner and I were thinking the same thing; did we actually have a motion passed for Maryland? We talked about changing it, but I don't know that we passed a motion for Maryland yet.

CHAIRMAN BOYLES: We got no further discussion; and by consensus, adopted the Options 1 and 2. Jack.

MR. TRAVELSTEAD: I just had one question on under Maryland, Option 2. Option 2 is the closure, but it doesn't contain the harvest quota, and I'm wondering shouldn't the harvest quota be – isn't that part of the picture, anyway?

MR. SPEIR: It should be.

MR. TRAVELSTEAD: It should be there under Option 2 as well, right?

MR. SPEIR: Yes.

MR. TRAVELSTEAD: I think that's just an error of omission.

CHAIRMAN BOYLES: Let's go back to Maryland. You're suggesting, Harley, that 170,653 horseshoe crabs per year should be part of Option 2?

MR. SPEIR: Yes.

CHAIRMAN BOYLES: Let's get a motion on that.

MR. TRAVELSTEAD: Mr. Chairman, I would move under Maryland, Option 2, that we include language that continues the current quota of 170,653.

MR. AUGUSTINE: Second.

CHAIRMAN BOYLES: Okay, motion by Jack Travelstead; second by Pat Augustine. Any discussion? Seeing none, is there any opposition to that motion? The motion carries. Eric.

MR. SMITH: I have a question, though, on Virginia, which has already carried, of course. Is my mind or my eyes failing me, or do Option 1 and Option 2 read identically except for the title line? Is that possibly a drafting error as well?

MR. TRAVELSTEAD: Option 2 is for one year only. Do you see the words "for one year"?

MR. SMITH: I see.

MR. ADLER: I do have a question on biomedical; do you want me to wait until you're finished with the addendum thing?

CHAIRMAN BOYLES: Could we do that? We've got one other issue. Does everybody know where we are? All right, what we have approved is a document for public hearings. We've dealt with management measures for New Jersey and Delaware; for Maryland; for Virginia. We've got one other issue, which is the option to extend the addendum by a management board vote for one year, to include that in the public hearing document.

Is there any opposition to including that? Okay, there is consensus to include both options for the public

hearing document. Can I have a motion to approve the addendum for public hearing? Pat Augustine.

MR. AUGUSTINE: Thank you, Mr. Chairman. Motion to approve this addendum for public hearing with the added changes and deletions as recorded.

CHAIRMAN BOYLES: Second by Vito Calomo. Any discussion? Any opposition to the motion? The motion carries. Mr. Adler, you had something?

MR. ADLER: Yes, I have a question. In all these addendums and everything on horseshoe crabs, and it gets rather foggy, what is the status of the biomedical parts? Are they still able to function in these states? I can't remember. So they've got their own little things; this doesn't cover the biomedical? I just wanted to make sure of that.

MR. HIMCHAK: Yes, they still fall under the original FMP directive, and the fact that they went over the threshold and re-examining that whole issue, they've been exempt from all these management measures up to this point.

CHAIRMAN BOYLES: Folks, a couple of other things. This will go out for public hearing. We will meet again -- at the August commission meeting we will again. That is the week of August the 18th. Brad has asked the question, if you look at the compliance dates on Page 6, are those workable -- September 1, 2008, programs to implement Addendum IV; and October 1, states shall begin the implementation of Addendum IV. That's kind of a tight fuse. Eric.

MR. SMITH: It's certainly tight to try and adopt regulation changes, but it's probably better to do that and just understand we would never consider noncompliance until the annual meeting. If you do it the other way, somebody could argue we should let our regulations lapse for the period of time until some future compliance date like November or so, and that's probably more confusing.

CHAIRMAN BOYLES: Okay, good. Ritchie.

MR. R. WHITE: Are we into other business? I'm not sure if this is appropriate or not, but I'm going to throw it out. I have a lot of concern with the report from the few members of the Shorebird Technical Committee, where they got into providing information on horseshoe crabs, which I agree I think is inappropriate. Would it make sense for us to write to the Fish and Wildlife Service and just ask them to reconsider the membership on the Shorebird Technical Committee in light of that?

MR. HIMCHAK: Mr. Chairman, my comment to this concern is that we have the update of the status done by these 20 authors and we have the Shorebird Technical Committee, and you're getting two separate messages; whereas, we established the Shorebird Technical Committee to give us the message.

Really, going back to Dr. Millard's comment is there really should be a little more restriction on how they deal with our parochial horseshoe crab data analysis. We had a presentation on an update of an assessment at the last board meeting, but it's confusing because it wasn't the update from the Shorebird Technical Committee. I don't see reconstituting the Shorebird Technical Committee, but I think that we should rely on them exclusively for presentations to the board.

CHAIRMAN BOYLES: Yes, and, Ritchie, I'd characterize this as board chair error as much as anything else with respect to information flow. I think if we can recognize the information and where we're getting the information from and rely on our advisors and the technical committee folks, I think that will suffice. That's my sense of things. Pete.

MR. HIMCHAK: Mr. Chairman, under other business I had asked -- or Mr. Givens had given a report to Brad Spear for circulation to the technical committee for comments on their positive mortality replacement report. I know Brad has sent comments back to me from technical committee members. I was under the impression that Dr. Millard was going to summarize those comments today. It's probably not necessary.

I mean, if you provide the comments back to New Jersey, we can utilize them as guidance in the next application for a scientific collecting permit. I just wanted to make sure Mr. Givens knew that we did circulate the report and get comments from the technical committee.

CHAIRMAN BOYLES: Okay, thanks, Pete. Any other business?

MR. BRIAN HOOKER: I just wanted to update the management board real quickly that we have received the scientific research permit application from Virginia Tech to continue the trawl survey, as well as the eighth year that we've received an application from Limuli Labs to do their data collection in the Shuster Reserve, and that will be going out for public comment in the near future. I encourage folks to comment. That's all.

OTHER BUSINESS

CHAIRMAN BOYLES: Okay, any other business?

ADJOURN

CHAIRMAN BOYLES: Seeing none, the meeting is adjourned.

(Whereupon, the meeting was adjourned at 6:45 o'clock p.m., May 7, 2008.)