

PROCEEDINGS OF THE

ATLANTIC STATES MARINE FISHERIES COMMISSION

HORSESHOE CRAB MANAGEMENT BOARD

May 9, 2006
Arlington, Virginia

ATTENDANCE

Board Members

George Lapointe, Maine DMR
Terry Stockwell, Maine DMR
Pat White, Maine Gov. Apte.
John Nelson, New Hampshire F&G
Rep. Dennis Abbott, New Hampshire Leg. Apte.
Ritchie White, New Hampshire Gov. Apte.
Bill Alder, Massachusetts Gov. Apte.
Paul Diodati, Massachusetts DMF
Vito Calomo, proxy for Rep. Verga (MA)
Mark Gibson, Rhode Island DFW
Gil Pope, proxy for Rep. Naughton (RI)
Everett Petronio, Rhode Island Gov. Apte.
Eric Smith, Connecticut DMR
Lance Stewart, Connecticut Gov. Apte.
Gordon Colvin, New York DEC
Pat Augustine, New York Gov. Apte.
Brian Culhane, proxy for Sen. Johnson (NY)
Peter Himchak, New Jersey DFG&W
Erling Berg, New Jersey Gov. Apte.
Roy Miller, Chair, Delaware DFW

Timothy Targett, Delaware Gov. Apte.
Bernard Pankowski, proxy for Sen. Venables (DE)
Howard King, Maryland DNR
Bruno Vasta, Maryland Gov. Apte.
Bill Pruitt, Virginia MRC
Jack Travelstead, Virginia MRC
Ernest Bowden, proxy for Ms. Davenport (VA)
Kelly Place, proxy for Sen. Chichester (VA)
Louis Daniel, North Carolina DMF
Damon Tatem, North Carolina Gov. Apte.
Jimmy Johnson, proxy for Rep. Wainwright (NC)
Robert Boyles, Vice Chair, South Carolina DNR
Malcolm Rhodes, South Carolina Gov. Apte.
Susan Shipman, Georgia DNR
John Duren, Georgia Gov. Apte.
Gil McRae, Florida FWC
April Price, Florida Gov. Apte.
Tom Meyer, NMFS
Jaime Geiger, US F&WS

Ex-Officio Members

Gregory Breese, US F&WS, Shorebird TC
Coordinator
Aaron Hurd, DE DFW, LE Representative

Mike Millard, USFWS, TC Chair
James Cooper, AP Chair

ASMFC Staff

Vince O'Shea
Bob Beal

Ruth Christiansen
Brad Spear

Guests

David Kielmeier, HSC Harvester/AP member
Caroline Kennedy, Defenders of Wildlife
Perry Plumart, American Bird Conservancy
Carl Shuster, VIMS
David Frulla, Collier Shannon Scott
Rick Robins, Ches. Bay Packing
Stewart Michels, DE DFW
Tim Dillingham, American Littoral Soc.
Rich Rieger, Northern VA Bird Club
Steve Doctor, MD DNR
Fred Layton, NJ HSC Harvester
Mike Litchko, NJ HSC Harvester
Craig Shirey, DE DFW
Benjie Swan, Limuli Laboratories
Steve Meyers, NMFS
Greg Butcher, National Audubon
Eric Stiles, NJ Audubon

Jason Rylander, Defenders of Wildlife
William Cooke, Citizens Campaign for the Env.
Wilson Laney, USFWS
George Johnson, Cambrex BioScience
Gary Hattwick, Wako Chemicals
Rod Roberts
Tom McCloy, NJ DFW
Jennifer Brooks, Gannett News
Humphrey Sitters, International Wader Study Group
Carole Hendrick, DE Riverkeeper Network
Stephen Ouellette, NJ HSC Harvester
Charles Auman, DE Fisherman
Lisa Hopkins, DE Fisherman
Yukari Fukui, Univ. of Maryland
Debbie Lee, Univ. of Maryland
Tom O'Connel, MD DNR
Mike Luisi, MD DNR

Susan Olsen, NMFS
Bob Ross, NMFS

Lisa Callahan, Atlantic States Fisheries Journal
Michael LaVecchia, LaMonica Fine Foods

There may have been others in attendance who did not sign the attendance sheet.

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Motion that the states of Maine, New Hampshire, Pennsylvania, District of Columbia Potomac River Fisheries Commission, South Carolina, Georgia, and Florida be granted *de minimis* status for 2006. (Page 13) Motion by Mr. Augustine, second by Mr. Nelson, motion carried.

Motion to approve the FMP Review Document. (Page 13) Motion by Mr. Augustine, second by Rep. Abbott, motion carried.

Motion to adopt Option 2 (partial moratorium) for New Jersey and Delaware and reduce the annual horseshoe crab harvest quota to 100,000 per state. (Page 33) Motion by Mr. Travelstead, second by Mr. Calomo, motion carried.

Motion to adopt Option 4 (multiple measure approach) for Virginia only for a two-year period. (Page 47) Motion by Mr. Travelstead, second by Rep. Abbott, motion carried.

Motion to adopt Option 2 for Maryland for a two-year period. (Page 47) Motion by Mr. King, second by Mr. Nelson, motion carried.

Motion for the biomedical restrictions to adopt Option 1, maintaining the exemption. The harvest and landing of horseshoe crabs for biomedical use are not subject to the restrictions placed on the harvest and landing of crabs for bait use. (Page 48) Motion by Rep. Abbott, second by Mr. Calomo, motion carried.

Motion to accept Addendum IV as modified. (Page 48) Motion by Mr. Adler, second by Mr. Nelson, motion carried.

Motion to approve an October 1 implementation date of 2006 for Addendum IV. (Page 48) Motion by Ms. Shipman, second by Mr. Calomo, motion carried.

**ATLANTIC STATES MARINE FISHERIES
COMMISSION**

HORSESHOE CRAB MANAGEMENT BOARD

**Doubletree Hotel Crystal City
Arlington, Virginia**

May 9, 2006

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The Horseshoe Crab Management Board of the Atlantic States Marine Fisheries Commission convened in the Washington Room of the Doubletree Hotel Crystal City, Arlington, Virginia, Tuesday afternoon, May 9, 2006, and was called to order at 1:30 o'clock p.m. by Chairman Roy Miller.

BOARD CONSENT

CHAIRMAN ROY MILLER: I would like to welcome everyone to the Horseshoe Crab Board meeting. We have a full agenda today and we have a tight schedule. I understand that we have to finish by five o'clock or shortly thereafter.

MR. ROBERT BEAL: Shortly thereafter, but the Annual Awards of Excellence Banquet begins at 6:30 and so to give folks a break between those two.

CHAIRMAN MILLER: Thank you. Let's move right into it. What I would like to do is seek approval of the agenda. Do you have any additions or changes or corrections to the agenda?

MR. JACK TRAVELSTEAD: I am told that in Delaware some of the local governments collect dead horseshoe crabs from the beaches and I wonder if under Other Business we could have a little bit of discussion about how those crabs might be utilized.

CHAIRMAN MILLER: Okay. Are there any other additions or corrections to the agenda?

MR. PETER HIMCHAK: Roy, I had one short item we could deal with under Other Business and it's just a briefing on a potential aquaculture program between Rutgers University and some of the fishermen in New Jersey for horseshoe crabs. You may hear some comments from the public during the public commenting period. It's an idea being developed and we have no hard proposal at this time, but just to make you aware of it.

PUBLIC COMMENT

CHAIRMAN MILLER: Are there any others? Seeing none, you all have a copy of the proceedings from the previous meeting of February 23, 2006. I'm looking for a motion to approve those minutes. Pat Augustine moved. Is there a second? John Nelson. Is there any objection to the approval of those minutes? Seeing none, they're approved.

What I would like to do next is invite public comment. There will be another opportunity for public comment. It's our intention to allow public comment on motions that are made, once it's our perception that the board has exhausted their opportunity for public comment.

We'll provide some time for public comment once the board has pretty much discussed the topic as much as they care to and we'll use some discretion in that, keeping in mind our time constraints. What I would like to do to invite public comment right from the very beginning is see a show of hands of everyone who would like to speak at this time.

Keep in mind that by inviting public comment at this time you should focus your comments on issues other than the draft addendum. There will be opportunity for comment on the draft addendum when it comes up. Having said that, how many still wish to make comments at this time? I get seven.

Why don't I allow five minutes and we'll be a little bit flexible and we'll start to the left where I saw the first hand. I can't see faces from up here, but you, sir, with your hand up. Please state your name for the record.

MR. RAY SMITH: My name is Ray Smith and I live in Oakton, Virginia. For most of my life -- This is a little different format for me. I'm actually a builder and a developer, but my hobby has become bird watching and nature in general over the last six years.

I wanted to just talk for a second about the value of horseshoe crabs to the bird watching community. I think it's the number on display of birds in the Mid-Atlantic, the number one display of birds in the Mid-Atlantic, and I think that birding is becoming the fastest growing outdoor activity in the United States today, especially as baby boomers get a little older and have a little more time for wildlife viewing.

They enjoy going around and looking at wildlife and I first started studying birds about six years ago and

one of the early places I went with my ornithology class was the Delaware Bay to look at the birds that came in at the time of the full moon, around the third week in May, to eat the horseshoe crab eggs in order to complete their journey up to the Arctic, the shorebirds.

I took some pictures on that trip and I'm just going to, while I'm talking, pass them around so you all can look at them. This is what happens at the Delaware Bay usually around the third week in May when the horseshoe crabs lay their eggs.

The places that you see, these pictures were taken five years ago. I went there last year and I'm going there again this weekend, starting at Cape Henlopen. We stay in Lewes and then going all the way up the bay for two days with six friends of ours and ending up at Bombay Hook.

The other place we go is Chincoteague in Virginia and as a Virginian, I try to see as many birds in the State of Virginia as I can. Friends of mine and I travel around the world looking at birds, too. I just wanted to say that last year when I went there, there were about a third the number of birds that there were five years ago in these pictures.

My opinion is it's because the number of eggs has reduced dramatically and the birds don't have as much food as they used to have and as they need to complete their journey. I'm sure you all read the information, but the rarest of these birds, the red knots and the Arctic terns, have dramatically decreased, as much as 80 or 90 percent, over the last ten years.

I believe that if you don't do something to control the harvesting of these horseshoe crabs and thereby their laying of these eggs -- This is the largest population of the four populations in the world. The ones in Asia are almost extinct now because of over harvesting. I think you're going to find that our children and our grandchildren won't have the ability to see these beautiful birds then they're around and it's something that we will lose, just like -- I just want to mention one last thing.

It has really not a lot to do with the Delaware Bay or Chincoteague or the east coast, but when the Polynesians first went to Hawaii there were 150 endemic birds, and that means they only live there, in Hawaii. Two hundred years later when Captain Cook got there, there were seventy-five. Today there are forty-five species of endemic birds and twenty-eight of those are endangered.

It's because of things that man did to the environment that caused that tremendous loss of rare bird life. None of us in this room know what happens when we affect nature that badly, because usually when you squeeze on a balloon on the left side something pops out somewhere else that you never even thought about.

I hope as a bird watcher that you will do something to control this what I think is over harvesting of horseshoe crabs so that we don't lose all of our rare birds and that's basically all I have to say and thank you very much.

CHAIRMAN MILLER: Thank you, Mr. Smith. The next commenter, keeping in mind that please don't comment on the points in the draft addendum.

MR. RICH RIEGER: My name is Rich Rieger and I'm the President of the Northern Virginia Bird Club and, along with Ray, I represent some of the 170,000 people a year that visit Bombay Hook, which is located on the Delaware Bay.

We also travel south on Route 9 and we visit areas like Port Mahone, the Little Creek Wildlife Area, and the Ted Harvey Wildlife Area. We come out in force in May and June, as Ray mentioned. This is a peak shorebird time and when we look for the shorebirds, we find them on the mudflats and they're feeding on the eggs laid by the horseshoe crabs.

If you've ever been to this area of Delaware, you know there's not much there. There's no malls, there's no museums, and much to the chagrin of my buddy Curt, there's no McDonalds either. We go out there strictly to see the birds and we don't just come from the nearby states of Maryland, Virginia, and Pennsylvania.

Since there are no McDonalds, when I go to the Delaware Bay I plan to eat lunch in a little place called Sambo's and that's located in Leipzig, Delaware. It's just a few miles south of the entrance to Bombay Hook. Leipzig has a population of about two hundred people, but Sambo's is a great place to eat lunch.

You can go in and get a seat by one of the picture windows and as you eat lunch, you can sit and look out over the salt marsh, but you can also look at the maps up on the wall. They have many maps of the world stuck up on the wall and in these maps are hundreds, literally hundreds, of pins marking the

locations where people live that have come from around the world to see birds at the Delaware Bay.

I find that that's pretty amazing. It's always fascinating to me. I kind of, of course, concentrate on the U.S. and looking for -- They have tags that hang off these pins with the names of the people who have visited and so I'm always looking for my friends if I see somebody from Albuquerque. If you want to look at that, Leipzig with a population of about two hundred people -- They host a lunch crowd I think that resembles the crowd at the deli next to the United Nations. Thank you very much.

CHAIRMAN MILLER: Thank you. Any other additional public comment at this point in time?

MR. MIKE LITCHKO: My name is Mike Litchko. I was wondering if the ASMFC has the responsibility or has responded to a letter of details to support the claims of research misconduct of the red knot science.

CHAIRMAN MILLER: Are you asking the chair to answer that?

MR. LITCHKO: Yes, please.

CHAIRMAN MILLER: I can't answer that, because I don't know. I will refer to the Chair of the Shorebird Technical Committee. Did that issue come up?

MR. GREG BREESE: The committee was copied on a copy of the letter with two responses from the commission. The committee had some discussions about it, but has not drafted a response at this time.

MR. LITCHKO: I would recommend that the chair there address that this be investigated by the General Accounting Office of Research Misconduct and not the authors and the Shorebird Technical Committee members, which are authors of most of the reports of the red knots. They would be reviewing their own work and they're not going to incriminate themselves, but maybe the General Accounting Office would be the better place to have this addressed.

My second comment is the red knot issue is a global. Migratory shorebirds are declining all around the world and not just in a certain area and as some of these researchers or some of these people come up here and speak about the birds and show you pictures and all that, those pictures will generally tell you that

there's not much beach left in most of the areas where these declines are.

It should be the goal of this council to address this issue as a global problem and not just restrict a certain group of fishermen in New Jersey and Delaware. Since the red knots are in South America, Alaska, they're found up into Mississippi, they're found in Kentucky. They're found all around this world here.

These are tagged birds from the USGS's tagging operations of birds that were tagged in the Delaware Bay and these birds are found all around this country. They're not just found on the Delaware Bay and only in Tierra del Fuego. They're found in Virginia and they're found all along the fifteen states here all along the coast here where the horseshoe crabs are.

The global warming can alter the migrating and patterns of these birds and put them in smaller groups and smaller areas where it's harder to assess their populations and with all the population and all the pesticides and the decline of the habitat and the decline of the feeding areas and the amount of food that is available to them, it's not just New Jersey or Delaware's problem.

I think the ASMFC should manage this as a global problem, not just restrict a certain group of people by a peer review team that is comprised of professors and students of college. Thank you.

CHAIRMAN MILLER: Thank you, Mike. Next is Charles.

MR. CHARLES AUMAN: Thank you for giving me the opportunity to speak. My name is Charles Auman and I'm a commercial fisherman from Delaware. I own a small seafood packing business in one of these little towns that everybody comes to visit these shorebirds and see.

It's not only the matter of the eggs on the beach. These horseshoe crabs are a vital part of our economy in Delaware. We're real small and like people say they go to Sambo's to sit there and enjoy, well that little town of two hundred, a third of us are fishermen that rely on these crabs for our bait in order to keep our fishery alive.

There's a lot at stake here in managing and when you go to lunch at Sambo's Restaurant, you want to eat crabs and crab cakes and clams and these horseshoe crabs are a vital part of our income in order to keep so we can crab and so we can fish and so we can

clam. It just keeps our season going. If these crabs are taken from us completely, you will annihilate the small town that Delaware was built on.

We were built on commercial fishing and farming and I realize tourism is coming in, but tourism also comes in to eat our clams and our crabs and our fish and all that and all these little towns are made up of fishermen like myself that need this bait in order to survive and it's a big deal when people want to start taking everything from you.

We need this bait in order to live over there. I'm sorry that people that come in here that want to take away everything and that's not a solution. This board's job is somehow to manage us fishermen in order to keep our living and people, tourists, to come in.

By taking away this whole thing, that's not management, in my opinion. That's annihilation. If there's management that's needed, manage it in. Manage us in and don't forget about us forty-five fishermen or fifty over there and don't annihilate us. There's got to be a plan or there's got to be a way to work us in and not forget us, because annihilation isn't management and going from 150,000 crabs to zero is not what I would call a board of management people doing something. By taking everything away from us, it annihilates us. Thank you.

CHAIRMAN MILLER: Thank you, Charlie. Are there any more public comments at this time in the program?

DR. CARL N. SHUSTER: Commissioners, I have circulated or passed out a statement, which I hope will be read into the record, and I just wanted to amplify a few remarks. I'm sure there's no one in this room who disputes the fact that we should be concerned about the migratory shorebirds.

At this point, I don't see that as the question. As I told you in 2001, what we need is a horseshoe crab sanctuary on the continental shelf. We put that in place and we are now seeing the results from that. Not only are we seeing increasing numbers of juvenile horseshoe crabs in Delaware Bay, but also an increase in the animals out on the continental shelf.

Beyond that, I want to report on two positive steps which I thoroughly endorse. One is an effort that a suggestion has been put forth by New Jersey Watermen that they culture horseshoe crabs and that they grow the horseshoe crabs through the first year

or two and then release them into the environment. I think it's a very positive step and I'm encouraged that my good friend Dr. John Able and Dr. John Croiter are both collaborating in that effort.

The second has to do with the male-only harvest and I highly recommend that step also. There has been much controversy concerning that and very little understanding of what's going on.

When you look at the four extant species of horseshoe crabs, you realize that only a male/female combination is necessary to reproduce the population. The attached male stimulates the female to lay the eggs and the attached male can fertilize the entire number of eggs.

In Delaware Bay and along the Atlantic coast, our horseshoe crab has a different behavior pattern than the Indo-Pacific species. Whereas the Indo-Pacific species attached to the females out at sea and therefore come in as pairs, along our coast some of the males attach at sea or in the bay, but many of the males come to the beach and wait for the females to come in, which means that there's an excess number of males on the beach.

They must be there for some reason. Yes, they're there because of the hormonal and physiological stimulus, the impulse, that sends them to the beach to spawn and then you look at the animals that make up that group of males. Some are diseased, some are injured, and some are old and dying.

Of course, there's a lot of fresh, young adults among them, but like any other situation, when you're dealing with an ecological generalist, what you see today you may not see tomorrow and so you'll see a shifting pattern of the age of the animals that are found in these spawning cultures.

There may be arguments against the genetic pool, but I offer the suggestion that I can't see much sense in dead and dying horseshoe crabs and diseased horseshoe crabs as supplying much to that genetic pool.

My reaction is that under the surveillance of state fisheries officials that we undertake the experimental trial for two years of male-only harvest and you'll hear much more about that later. I will wish to make comments later on, I believe, but I think this summarizes my thoughts at the present time. Thank you.

CHAIRMAN MILLER: Thank you, Dr.

Shuster. Are there any more public comments at this time?

MR. LITCHKO: My name is Mike Litchko and I'm the elected horseshoe crab representative for the State of New Jersey and I would like to touch on what Mr. Himchak has stated about the plan that the New Jersey fishermen had proposed.

It's called a positive replacement mortality plan and what the plan -- What we wanted to design is we had Rutgers University and Cape May County, New Jersey who was going to raise these horseshoe crabs - - We were going to raise the horseshoe crab juveniles with them and the mortality plan -- We were going to encompass the mortality, because we called it a positive mortality replacement.

We wanted to be able to harvest horseshoe crabs and replace that with the crabs that we raise over a few year period here. Starting with this year we're going to do it. No matter what, we're going to do it and because we're -- Mr. Able is now in Congress trying to get funding for it and the fishermen have put up money that we would do it even if they didn't get the funding for it.

It wouldn't be much money anyway, because it's very reasonable to raise these horseshoe crabs, but one of the things about the mortality is that we all know that Delaware Bay has a large mortality of horseshoe crabs naturally that come and die here, just like Mr. Shuster had spoke about, the diseased ones and all that.

It's not hard to pick those or distinguish those horseshoe crabs that are diseased and deformed out and harvest them, but also that the horseshoe crabs are trapped in the marshes and meadows and they would die there naturally anyway.

According to some of the statistics, there's close to like 300,000 horseshoe crabs in the PSE&G area of Thompson's Beach, which there's plenty of information about the amount of them that are trapped there and that's just in certain areas. There's in excess of close to a million crabs that would normally be trapped between Delaware and New Jersey and die naturally of a mortality.

What we're looking to do is trying to harvest that mortality, even when the birds have left, and then since the replacement plan is only using a minimal amount of eggs, like three female horseshoe crabs would be enough eggs to spawn and hatch our harvest mortality, as I'm going to call it.

The positive mortality plan is certainly outside of the box here and it's something that's -- Nobody has ever wanted to bring this up as far as trying to raise something and release it and I think since the fishermen come up with it -- It's a very good idea and it has well meaning, because it benefits the birds, the horseshoe crabs, and the fishermen and everybody alike and it should appeal to everybody, because, like I said, it's a positive mortality replacement and that's what we have.

We have a natural death and there's no reason why we can't harvest that natural death. Right now, the New Jersey fishermen don't harvest off the beach and pull the plate from the birds, as is what is led to be believed by everybody, because we're a thousand feet inland.

Those horseshoe crabs go up to a mile inland and die there naturally. The sun bakes them and they're trapped and so there would be no reason to harvest that. Thank you very much.

CHAIRMAN MILLER: Thank you, Mike. I didn't see any other hands before and we're already running a little behind, I suggest we press onward. What I would like to do is call on Brad Spear for a Plan Review Team Report Concerning State Compliance and FMP Review.

PLAN REVIEW TEAM REPORTS

MR. BRADDOCK SPEAR: State compliance reports were submitted by February 1st, 2006. I'll go through the highlights of both the Plan Review Team Report and the FMP Review. First, Florida's marine life landings decreased to about six-and-a-half thousand in 2005 and that was the lowest in the time series.

In the past, the Plan Review Team had asked Florida to put in a cap for those landings and it seems to be less of a concern now that the numbers have dropped.

Delaware exceeded its quota by a little over 4,000 crabs in 2005. It was unclear in the report whether the problem has been addressed, but Delaware did commit to repay that overage in 2006 and limiting its quota to 145,731 crabs.

Law Enforcement Report, a couple of the highlights. The plan is enforceable. However, there are reports of under reporting and that this is currently under surveillance. There were minor violations reported in Delaware and Virginia, but there were no major cases

of concern.

State landings for 2005 are preliminary. They're included in the back of the FMP Review that was sent to you in the supplemental mailing. The Plan Review Team finds that outstanding landings that come in late will not put states over their quota and the PRT recommends that all states be found in compliance for 2005.

Maine, New Hampshire, Pennsylvania, PRFC, South Carolina, Georgia, and Florida requested *de minimis* status. *De minimis* threshold for 2005 was just over 7,000 crabs and the Plan Review Team recommends that the jurisdictions listed above be granted *de minimis* status for 2006.

Preliminary landings for bait landings for 2005 coastwide were 730,890 crabs. Approximately 413,000 were males and 276,000 were females and 41,000 were unknown. This is a 6.8 percent increase over the 2004 landings and a 75.6 percent reduction over the reference period landings.

Also of note, about 50 percent of the available quota for 2005 was landed. The biomedical fishery, the Plan Review Team estimated there was a coastwide harvest of just over 280,000. An additional about 40,000 crabs were bled, but those were counted against state quotas, and the calculation that the Plan Review Team used is a 1.5 percent mortality prior to bleeding from the biomedical process and a 15 percent mortality during or after bleeding and that is considered the most conservative estimate in the literature.

That gave us an estimated mortality of about 45,000 crabs a year coastwide. If you recall from last year, it was the first year that we calculated the number using similar methodology and that number was about 58,000 in 2004.

A couple of highlights, Virginia Tech and Delaware Bay Spawner Surveys have again provided updates for 2005. You'll hear more about that in the Technical Committee Report. 2005 was the first year a Delaware Bay-wide egg abundance survey was started. It's a directed index to get at surface egg availability for shorebirds.

You'll recall the University of Delaware is continuing to work on developing an artificial bait to catch conch and eel. Just an update, DuPont Company has offered free assistance to the University of Delaware to provide and develop a matrix to inject the artificial substance that would

deliver the attractants and attract the conch and eel.

The U.S. Fish and Wildlife Service has two Endangered Species Act processes going on currently. There's one initiated internally by the agency elevating the red knot from the species of concern list for the review. There was also external requests through petition to do the review process for the red knot and the last I heard, they were hoping to make a determination later this year.

A couple of recommendations. Again, continued support for the Virginia Tech Trawl Survey. I believe they have money from Congress through FY2007. It's in I believe the President's budget, but at a reduced dollar amount, and funding beyond that is uncertain.

The Technical Committee should continue to promote and review the current assessment use and exploration and also the PRT supports the continued coordination and funding of the bay-wide egg abundance survey.

Something that has come up at the Technical Committee level and the board level is the idea of movement and populations of horseshoe crabs and because of that, the PRT is recommending that the tagging subcommittee be reconvened. They met last time I believe in 2002 and this committee would look at the tagging data that has come online since then. The last recommendation is that states continue to follow the biomedical reporting requirements of Addendum 1.

CHAIRMAN MILLER: Are there any questions for Brad from members of the board?

MR. PETER HIMCHAK: Brad, I have one quick question. It has to do with the biomedical modeling and Addendum 3, the questionnaire that was developed for the states to bear the responsibility to cover all levels of mortality associated with the utilization of horseshoe crabs in the biomedical industry and you make reference in the next document about problems with the standardizing and the results or the completed questionnaire by the states.

My question to you is the culling at sea item in the questionnaire, Number 7, which is a critical component of the monitoring, is that being satisfactorily addressed in the four or five states that have biomedical companies?

MR. SPEAR: That is one of the big

components that is inconsistent among states and not reported part of the time.

CHAIRMAN MILLER: Are there any other questions or comments on the part of the board in regard to this agenda item?

MR. PAT AUGUSTINE: Mr. Chairman, are you ready for a motion on the *de minimis* recommendation and we can move that far along?

CHAIRMAN MILLER: Certainly.

MR. AUGUSTINE: **I move that the states of Maine, New Hampshire, Pennsylvania, District of Columbia Potomac River Fisheries Commission, South Carolina, Georgia, and Florida be granted *de minimis* status for 2006.**

CHAIRMAN MILLER: Is there a second? Second by John Nelson. Comments on the motion or discussion? Are we ready to vote? **All those in favor raise your hand; any opposed; any abstentions or null votes. The motion carries.**

MR. AUGUSTINE: I have one further point, Mr. Chairman. There were several other recommendations that were made and do any of those require motions or action on behalf of the board at this point in time?

CHAIRMAN MILLER: Pat, we need a motion to approve the FMP Review Document and if that is forthcoming, it would take care of, I suspect, any additional concerns you might have.

MR. AUGUSTINE: **I would so move that the board approve the FMP.**

CHAIRMAN MILLER: Is there a seconder to that motion? Second by Dennis Abbott. Is there any discussion on the motion? **Are there any opposed to the motion? Seeing none, the motion carries.**

Thank you, Brad, for that agenda item. If there's no further comment on that from the board, we'll move on to the Technical Committee Report and Mike Millard.

TECHNICAL COMMITTEE REPORT

MR. MICHAEL MILLARD: Thank you, Mr. Chair. The Technical Committee met in mid-April to discuss three major agenda items. The first was a day-long meeting with the Virginia Tech horseshoe

crab researchers and we had a fairly productive dialogue with them regarding their past research and perhaps what they're thinking to do in the future.

The second major agenda item was for the technical committee to define tasks in the near future with other committees, that being the Shorebird Technical Committee, and what the future might look like for interactions between those two committees and this notion of reconvening the Horseshoe Crab Tagging Subcommittee and defining tasks for that committee.

Fourthly, and probably most importantly, we stepped through the Addendum IV options and provided evaluation on each option. Regarding our discussions with the Virginia Tech researchers, first and foremost was the discussion of the ongoing benthic trawl survey, which, as you know, has been active since 2001.

Virginia Tech hopes to expand the range of the survey this year, this fall, and most notably they have some ideas of expanding it into Delaware Bay itself, which could offer some opportunities if in fact they can do that.

As Brad mentioned, the funding for 2007 is likely reduced. It looks like right now, depending on their success with their Capital Hill actions -- Right now, funding for 2008, of course, does not exist and they're uncertain at best. They're looking for support to continue this operation and the Technical Committee recommends that this support be given.

Results from their 2005 survey, and I believe you all have this report in front of you, in general were promising. Immature females in the Delaware Bay increased significantly since 2003. Mature crabs that haven't yet spawned remain variable with no detectable trend. Mature crabs that have spawned remain stable and it appeared in the New York apex area that the numbers were down somewhat.

The genetics work, this was news to me. Dr. Eric Holliman, who is now the Director of the Virginia Tech Horseshoe Crab research facility, replaced Jim Berkson over a year ago. Eric is a geneticist and is working with Tim King at the USGS Leetown Lab to continue the genotyping and genetic characterization up and down the coast.

The real value in this -- So far, I think most of you are familiar that there hasn't been a whole lot of stock structure seen within the Mid-Atlantic or certainly within the bay itself, but if in the future that were to reveal itself -- I'm not saying there's any

reason why it should, beyond what we've already seen, but the ability to partition out any mixed stock fishery, if it were to exist, would be helpful.

Then we received a fairly interesting presentation from Sarah Karpanty and Jim Fraser at Virginia Tech. Sarah had been working on shorebird use of horseshoe crab eggs in the bay for the last few years. Her results, very briefly, were that the birds exhibit a significant preference for sandy beach habitat.

After the peak horseshoe crab spawning events, there was evidence that birds even more so were found on the beach habitat. Beach use went up and marsh use went down after the peak spawning events.

Red knot habitat had more horseshoe crab eggs than random points. There was no evidence of a reduction of eggs on the surface, but some evidence of a reduction in eggs in five centimeters and below. Integrating all that information, there's not a surprising result that the birds are using the horseshoe crab eggs, in my mind.

At the end of the day, after a lot of good question and answers with the Virginia Tech folks, the Technical Committee came up with some recommendations or requests for them and they seemed to be amenable to pursuing these.

We, of course, have no authority to tell them what to do, but they were very receptive to helping the management committee. They have this five-year trawl database now, which has sort of been growing and it's about time to start mining that database. We think five years is getting up there and we can mine the database and look for some correlations with other trawl data and depth data.

What this will allow us to do, for instance, is if their data are correlated with the ongoing NOAA Fisheries offshore trawl data, perhaps they could reduce their effort in the offshore area, expand the range up and down the coast, contract it off the coast, and we could use the NOAA data to fill in the gaps. There are some sampling efficiencies that could be explored with these other trawl data.

We asked them to investigate the influence of environmental covariates and maybe most importantly, begin a collaboration with the Horseshoe Crab Stock Assessment Committee where we can take these five years of trawl data now and begin a preliminary catch survey formal stock assessment model.

I wouldn't term it a final effort by any means, but I think it's time that we could begin to fool with it and play with the model and see if in fact it's going to work and they were amenable to that, to hopefully turning over their data to the Stock Assessment Committee to pursue that.

Another big item for the catch survey stock assessment model to work is that we need to be able to ID these pre-recruits, the crabs that are newly mature and will be spawning for the first time the upcoming season. Virginia Tech had promised to do this in their work and the researcher, David Hata, who is doing this, will be providing us a standardized, written protocol for the methodology that he has developed.

There's also a Delaware State graduate student working on the same issue and we asked Virginia Tech to provide us a progress report on her progress.

We would like to hear more, of course, about their intention to move into Delaware Bay with their trawl survey. There could be some efficiencies to be gained using their effort as a tagging platform or a tag recovery platform and so we're going to continue dialogue with them on that as that progresses.

We were provided an update, another year added on to the annual Delaware Bay Spawner Survey, and you can see these two time series here with 2005 added on. In the left-hand is the state-specific estimates of spawning activity. You can see New Jersey appeared to go up in 2005 and Delaware appeared to go down and so overall, bay-wide, and that's the graph on the lower right, it was stable.

Of note, in 2005 the spawning appeared to be a little bit later than usual. It was on the first lunar event in June, as opposed to last lunar event in May.

Then we came up with some items for the tagging subcommittee, where they to be reconvened. One is, again, to work with Virginia Tech. If they're going to have a boat and trawl in the bay, catching and handling animals, that should provide some opportunities for some tagging projects where we could get some valuable information from the Virginia Tech effort, in concert with the spawner survey for tag returns.

Then, there's an existing tagging database that the Fish and Wildlife Service maintains in their Annapolis office that really hasn't been comprehensively mined yet and so we would think that the tagging subcommittee should get their hands

on that data and analyze and summarize and report on any kind of useful information that might exist in that database.

Regarding the future of collaboration with the Horseshoe Crab Technical Committee and the Shorebird Technical Committee, that's sort of where we need to go in this whole process and I think everybody knows that. This is a multispecies issue and eventually the management will have to get into the nuts and bolts and numbers and modeling of the two species.

The goal is to advance this joint species management concept in a quantitative way. The Technical Committee had decided hopefully to capitalize on some of the international shorebird folks that are in the bay this spring, particularly Richard Stillman.

We wanted to meet with them and have a small quantitative team from the Stock Assessment Committee meet with a small quantitative team on the shorebird side and start to develop questions and issues and the needs to how to move this effort forward.

I've heard since then I think that Richard Stillman is not going to be over in the states this spring and so how we proceed from here on that remains a little bit unclear. We hope to at least in the fall have a joint meeting of the full committees to begin a productive dialogue on how to move forward in this joint species management framework.

I know you can't read this, but before we get into the addendum options I thought it would be useful to give you a little bit of just -- I have really very little comment on these numbers, but just to get in your mind a perspective of some of the numbers and trends and graphs that we're dealing with and where we're at today, before we get into thinking about the addendum options.

There are two existing absolute abundance estimates for horseshoe crabs. The first one in the blue up there is from the mark-recapture effort, the Smith et al paper for 2003-2004. The one in the white is from the Berkson et al paper back in 2001. The number that really counts, and I tried to blow it up on the lower right there, for the Berkson estimate was 11,400,000 total.

That was an offshore estimate using his trawl gear and you can see the 2003-2004 mark-recapture estimates up there in the blue. 2003 for total was 19.9 million. 2004 was 13.3 million and those are

estimates from in the bay itself from the mark-recapture numbers that we basically went over more in depth at the last meeting and hopefully you'll recall.

These are the recent female horseshoe crab landings. The purple bars are Delaware and New Jersey. On top of them cumulatively are the Virginia plus Maryland plus New York female landings and, again, I make no comment on these other than for you to have them in the back of your head when we think about the addendum options.

We can pull these up again if need be. These are the male horseshoe crab harvests in Delaware and New Jersey since 1998, the trend.

Now we get into the options and I've been thinking about to present this and there is no nice and tidy way that I can think of without taking too much time. I don't want to step through every box in detail. You have the tables that we put together hopefully in front of you and so I'm going to try and generalize what the committee came up with.

Regarding the first set of options in New Jersey and Delaware, Option 1 is the status quo and I put up here as a backdrop for what we felt was the status quo and I'll say it once and maybe not mention it again, is that there are three independent data sets out there that suggest there's a large slug of juvenile horseshoe crabs in the bay.

That's sort of the backdrop against when we talk about status quo and that's where we're at. You all are familiar with what the harvest quotas are at and so here's what we think is going on in the bay at this point as far as status quo.

Option 2 is the delayed harvest of males. What will this do in terms of females and eggs? Obviously, it will put what we call a small number of more females on the beach, however many females were harvested in a year. The best case scenario, or the worst case scenario, is you could in the bay harvest 300,000 females and that won't happen under Option 2. That would be 300,000 more females on the beach spawning, which would increase commensurately the number of eggs.

One concern is, and it has happened in the past that the committee made a point out of, is if you remove that opportunity in the bay, the effort can be displaced elsewhere. A male harvest will, and it's unavoidable, have a small change in the sex ratio.

I don't know if it's helpful for me to say small, because how small is small? I just put the estimates up there in terms of anywhere from four million to twenty million and so think about the numbers we're harvesting and put those in context with the numbers that we have estimated to be out there and you can draw your own conclusion about what's small and what isn't.

The committee was fairly unanimous in thinking that in any of these options the difference that would be made will probably be undetectable, given the current monitoring tools that we have in place right now.

Option 3 for New Jersey and Delaware is full moratorium. This, similar to Option 2, will result in an increase in those females that aren't harvested. They're now on the beach spawning and a commensurate increase in eggs. Again, we worry a little bit about the displacement of the effort to adjoining areas.

For Maryland and Virginia, status quo is a little bit harder to define. Really, the monitoring has not been quite as comprehensive or quite as good, frankly, outside of the bay and so we're really unsure what the baseline is out there.

Delayed harvest and this would be males and females in Maryland and Virginia for Option 2. Again, we framed these comments in terms of their impact on Delaware Bay and so what we felt was small within Delaware Bay is now probably even smaller outside of the bay, because the ones that are being impacted are the few crabs that are in Maryland and Virginia that would ultimately end up in the bay. We have no hard number for that, but it's something small. The benefits in the bay are even less by Option 2 in Maryland and Virginia.

Delayed harvest of males, Option 3, again, in terms of females it's essentially the same as a delayed harvest. There will be that many more females in Maryland and Virginia and of that, the small component that ends up in Delaware Bay adding their eggs. F displaced, again, there's that concern and there will be a small change in the sex ratio.

Option 4 in Maryland and Virginia was delayed harvest in Virginia and 40 percent from the ocean at a two-to-one male-to-female ratio. There's not much difference and maybe a very small change in the females and eggs in Delaware Bay, undetectable given our current monitoring tools, and there's the effort displacement issue again.

Option 1 for the biomedical, a ceiling of 58,000 mortalities stays in place under the status quo. If they undergo a delayed harvest of males in New Jersey, Maryland, and Virginia, the same sort of scenario, perhaps a very small increase in females and eggs in Delaware Bay and a small change in the sex ratio and male mortalities might increase, because they would be harvesting only males.

A full moratorium, the same scenario as the moratorium with the other scenarios, a small increase in females and eggs in Delaware Bay and there would be, of course, no biomedical mortality.

It's difficult to put this in perspective. Again, what's small and what's very small. You're familiar with the numbers. The New Jersey and Delaware option undoubtedly in the bay -- Whatever small is, the benefits are larger by actions that take place in the bay than they are by actions that take place out of the bay. I hope that makes some sense. I assume there will be some questions on this and I'll try not to take all day going through each box.

CHAIRMAN MILLER: We'll take some questions on this from the board now.

MR. TRAVELSTEAD: Mr. Chairman, I have three questions for Mike, if you'll indulge me. Mike, back last October the Technical Committee seemed to conclude that no additional harvesting restrictions were needed to ensure a relatively stable or maybe even an expanding horseshoe crab resource in Delaware Bay and now since then, you've seen the Virginia Tech Trawl Survey and I think you've seen data from the Delaware Bay Spawner Survey and you've looked at that surplus production model. My question is are you still sticking by your earlier conclusions from last October?

MR. MILLARD: I think so, yes. The apparent slug of juveniles in the pipeline is, in our mind, a good sign. We can't without a doubt assign that to recent harvest regulations, but it certainly seems reasonable to draw that connection, we think.

With regards to the surplus production model, it does cause one to pause, but given that it has no ability to integrate this notion of a ten-year lag time before we see the compounding -- If we save some females and they start compounding that, that wouldn't start until ten years later and the surplus production model doesn't have the ability to integrate that ten-year lag time. That's sort of a confusing scene, but the short answer is I don't think we've changed our minds drastically.

MR. TRAVELSTEAD: A couple of times today you've talked about a large slug of juveniles that are present in Delaware Bay and I know at the last meeting you showed us some dredge data that showed this expansion of year classes, but they're all sub-adults. I guess my question is what are the ages of those sub-adults and how soon will it be before they start spawning in Delaware Bay?

MR. MILLARD: I thought I might get that question and so here's that graph again. As you can see, they're seven, eight, and nine-year-olds back in 2003, 2004, and 2005. Right now I guess this year we would expect the beginning of these increased cohorts to start showing up on the beach.

MR. TRAVELSTEAD: Relatively quickly we should see some improvement then in spawning if this is accurate.

MR. MILLARD: That's the thinking, yes. Whether it's enough to be detectable in our current spawner survey tool remains to be seen, but we hope so.

MR. TRAVELSTEAD: Earlier, Dr. Shuster was commenting on the male-only harvest strategy and seemed to indicate in his opinion that the number of males or at least sperm in the population is not a limiting factor. Do you agree with that and if so, then is the male-only harvest strategy a biologically sound option that we should consider?

MR. MILLARD: I wouldn't pretend to disagree with Dr. Shuster on the life history of the horseshoe crab and I mean that seriously. I've not done spawning behavior studies. There are a few out there.

Speaking personally from what I have seen and integrating all the studies and the data that I'm aware of, it's difficult for me to believe that a controlled, short-term male-only harvest -- It's difficult for me to see where that would threaten the viability of the population as we see it today in terms of sperm availability.

It's even more difficult for me to believe it would have genetic consequences. We've seen the genetic data and there is no structure that can be identified within the bay, which leads you to believe that the animals are moving about quite freely. It's a fairly panmictic, as they said, or homogenous stock.

The removal of a small number of males or however

many you were to allow removal of, if any, would not seem to threaten removing a valuable component, since it appears to be a homogenous stock. Again, I'm not a geneticist, but that's what it would appear to me to be.

MR. TRAVELSTEAD: I have one last real quick question. When you were going through the different options -- I know this is Number 4 and I said three, but -- You talked about the differences between some of the options being undetectable and is that simply because we do not have the monitoring in place that we need and that the differences could be extremely large or is that the differences are extremely small and you just simply would not expect any one or any system to be able to detect the differences?

MR. MILLARD: I guess I would put it in the middle somewhere and not to dodge your question, but I think they're small enough that the tools that we have in place -- The spawner survey, it's a pretty darn good survey, I think, but when we're talking about 300,000 extra females in a population over five million, we think, spread out over the bay and how many of them spawn each year, it would be difficult to detect, I think. Again, that's my personal opinion.

CHAIRMAN MILLER: Any other questions from the board?

MR. HIMCHAK: Mike, I thank you for your comments on behalf of the Horseshoe Crab Technical Committee and indeed, the crux of our problem today is not necessarily the sustainability of the horseshoe crab resource, but the availability of eggs for the shorebirds.

The Technical Committee, your impression, is that there are sufficient horseshoe crabs to sustain the Delaware Bay population of horseshoe crabs and that may not be the crux of the problem today and recognizing that the Technical Committee cannot comment on the availability of eggs for the shorebirds and that's why we created a Shorebird Technical Committee, but I'm just trying to bring this back into focus on our two layers of production of eggs against sustaining the horseshoe crab population, which may be fine, but the production of eggs for the shorebirds eating can't be addressed by the Horseshoe Crab Technical Committee, to my knowledge.

MR. MILLARD: Yes, that's true. Clearly anything that's good for the horseshoe crab spawning

population is good for increased egg production and is good for the birds, but that's at least where our quantitative knowledge stops and we're at that bend in the road that we need to start addressing with the Shorebird Technical Committee.

CHAIRMAN MILLER: Are there any more questions for the chairman of the Technical Committee from the board? Seeing none, we'll move on to the Shorebird Technical Committee Report from Greg Breese of the U.S. Fish and Wildlife Service.

USFWS SHOREBIRD TECHNICAL COMMITTEE REPORT

MR. BREESE: The Shorebird Technical Committee met at the end of April to do a number of things, but primarily to review research and monitoring results and also to provide comments on the options in the addendum so far as it was able to.

The reports that it had in front of it to review were the ones listed on this slide and in addition to that, a number of research results on shorebirds were presented to the committee verbally at that meeting.

There were a number of discussion points that came up and I'll touch on four of them. I'm trying to keep this short, anticipating that there will be questions. One thing that the committee wanted to recommend was that they agreed and endorsed the idea of securing stable funding for the trawl survey, looking at that as the best way to understand what's happening with the horseshoe crab population.

Another point of discussion was on the mark-recapture population estimates, primarily because they were being used to weigh the advantages and disadvantages of the addendum options. There was a lengthy discussion on that.

The two key points that came out of that was that the number of recaptures seemed rather low for a population that size for accurate population estimates and there was a question of whether all the horseshoe crabs spawn in any one given year and if they don't, would that affect the results because some portion of the horseshoe crabs are not reaching the beaches where the recapturing is being done?

The committee would also like to, the third point, thank the authors of the spawner survey for responding to their requests to include additional data and information in the report. They found that quite helpful and, again, thanks.

They also felt that it was high time that the Shorebird Technical Committee, the Horseshoe Crab Technical Committee, and the Stock Assessment Subcommittee tried to work out a way to collaborate more effectively together and to have more interaction and to make it more of a multispecies management effort.

The information about the Bay-Wide Egg Abundance Survey was presented and while a report was not available, the information that is on the slide summarizes what we heard. Of course, it's the first year of the survey. There is no real trend. We need to wait for more years of the survey before we'll have an idea of what the trajectory is.

However, it was done according to plan and it seemed to be quite successful and you'll note the next-to-the-last bullet there that Mispillion in Delaware got quite high abundance of eggs on the beaches there, which may help explain a little bit about why we seem to be seeing birds spending a lot of time in Delaware Bay and Mispillion feeding. It's not great surprise, again.

The next-to-the-last point I'll make on this one is the last bullet. New Jersey has continued its egg abundance survey in the hope that after a couple of years of doing the survey side-by-side they'll be able to use that historic data from their egg survey as well so that we'll have a longer time series.

The last point I'll make is that this survey is being funded year-to-year. It does not have stable funding and like the trawl survey in 2008, each year we're not sure if we have funding and so stable funding is important for all of this effort that we're involved with.

There were a number of pieces of information that were presented to the committee related to the shorebird population and so I thought I would go over them. The first one was looking at weight gain of shorebirds in Delaware Bay, specifically red knots, and for 2005 the information that was provided indicated that 14 percent of the population was estimated to reach that threshold weight of 185 grams, which is a relatively reasonable number, which is a relatively reasonable number, although you have seen in past reports 180 grams, and one thing the committee did this time was agree that from now on we would try to standardize at 180 grams and standardize it as percent of the birds reaching weight.

The winter count in Tierra del Fuego seems to be the most critical one to be focused on. It was stable

between 2005 and 2006. I would like to note that that is about 30 percent of what the counts were in 1985 and 2000. In the report on page 2, you have the full time series so that you can look at that if you would like.

What's being handed out to you is the full time series for weight gain, estimated weight gain in Delaware Bay, and in addition to that is the Tierra del Fuego counts, which you already have in the report, and egg densities on New Jersey beaches, which I believe is the New Jersey survey.

In addition, Dr. Baker attended the meeting and provided information on estimated red knot survival in recent years at about 79 percent and a recruitment rate at a relatively low 10 percent.

There was also information provided from the New Jersey Audubon Society, which has been conducting a study comparing semipalmated sandpipers and least sandpipers, which have a difference in their foraging behaviors. Semipalmated forage more heavily on horseshoe crab eggs and least sandpipers are pretty restricted to mudflats and not making use of horseshoe crab eggs.

In this slide, it shows a comparison. The upper curve is 1995 to 1997, weight gain by semis, and the lower graph shows a more recent 2000 to 2005 and it shows a significant difference in the semipalmated sandpiper's ability to gain weight between those two time periods, whereas this slide shows the difference between those same time periods for least sandpiper and shows no statistical significant difference.

Finally, the committee heard that the Delaware Bay Aerial Shorebird Survey, which is co-run by New Jersey and Delaware, continued at low numbers, which is probably better looked at as an index of use rather than a population estimate.

I won't belabor this, since Brad covered it, but there's essentially two things going on within my agency related to red knots and the Endangered Species Act. One of them is, as Brad mentioned, an internal review. That is an assessment on whether red knots deserve to be considered candidate species.

The other is petitions that we've received to list the species and those are happening in parallel and so it gets a little confusing to follow for a number of people.

If it is considered a candidate species, that does not give it legal protection under the Endangered Species

Act, I just wanted to reiterate. It does open up some new sources of funding for conservation work on the species and allows my agency to enter into candidate conservation agreements with entities to help conserve the species.

If it's listed as threatened or endangered at some point in time, the legal protection will vary tremendously based on exactly how the population is listed, because it can be listed as a subpopulation, as a geographic population, and so that will have huge effects on how much protection it enjoys, but it would require my agency's consultation on federally-funded projects and it would require researchers to get additional permits for work.

I'll finish up with the committee's comments on the addendum options. Again, there was a wide discussion. There wasn't an ability to come to consensus in as fine detail related to the tradeoffs of the various options.

The three points related to horseshoe crabs that the committee felt were important to focus on was that a male-only harvest has some potential to affect the egg supply and potentially that could be in a downward direction.

The spawning survey has yet to show an increase. It shows somewhere between stable and declining at a very low level and the surplus protection model rerun through the stock assessment subcommittee using specific data sets still seems to indicate that we could be exceeding maximum sustained yield and the harvest level.

From the bird side of the equation, there are continued record low numbers of red knots in the wintering population in Tierra del Fuego and in the aerial survey in Delaware Bay. The weight gain at Delaware Bay for 2005 was 14 percent. Recruitment appears to be quite low, at 10 percent.

The best conclusion that the Shorebird Technical Committee was able to reach was that precautionary and risk-averse management is still the name of the game and that a moratorium would clearly be the most risk-averse option that could be chosen. Thank you and I'm ready for questions.

CHAIRMAN MILLER: Questions? I'm also going to call on the chairman of the Technical Committee at some point during this questioning process to see if he has any comments concerning the discussion that the Shorebird Technical Committee had on the horseshoe crab population status.

MR. BILL ADLER: My first question, real quick, is where is Tierra del Fuego?

MR. BREESE: That's at the tip of South America.

MR. ADLER: Is that where the hunt goes on for these birds?

MR. BREESE: We don't know of a hunt that's going on. We've heard reports that at times they are hunted, but not from that area or at least I have not.

MR. ADLER: The second thing was from the Shorebird Technical Committee, what do you think of this report here that these laughing gulls are perhaps hindering the red knot from getting what it needs to survive? What's the effect of these other birds hurting the red knot? What's your position on that or what's your thoughts on that?

MR. BREESE: If you may recall, in the fall we talked about that issue to some extent. There's clearly some competition between laughing gull use of horseshoe crab eggs and shorebirds. There's been a couple of research papers that indicated that shorebirds, depending upon the size of the flock -- Smaller flocks have a lesser ability to impose their ability to get to eggs when there is laughing gulls in the area and that under disturbance situations laughing gulls leave the beach later than the shorebirds and they arrive back sooner and so they seem to have an advantage under disturbed conditions.

The laughing gull population doesn't appear to have changed much, but if there is a reduction in egg supply, there may be more competition and it may be harder for the shorebirds to make use of that resource.

MR. ADLER: That could also be contributing to the red knot problem rather than just the few horseshoe crab eggs that fishermen take.

REP. DENNIS ABBOTTT: My questions are along the lines of Mr. Adler's. As we were looking at this today, I was intrigued by the pictures that were being passed around and also the report from Dr. Shuster and the reference to the laughing gulls.

It prompted me as a layman in this area to ask the question of Gregg of how many species are there that

are feeding on these eggs during this time and what is the status of all those birds and is the red knot a subdominant species that will always be inferior to say the laughing gulls or the other shore birds and therefore, will any increase in eggs deposited on the beach have a positive effect on the red knot?

From the conversations that I've heard today, it leads me to believe that regardless of any efforts of conservation in the area of the horseshoe crabs that we may not be having any benefit whatsoever to them.

Probably a final question would be has anyone taken the time to do some beach sampling on a specific plot of beach and to see how the birds behave and who is getting the eggs? I know there's a lot of questions there, but obviously today has raised more questions in my mind than have been answered.

MR. BREESE: You're asking if there are more birds than the red knots that feed on the horseshoe crab eggs and certainly there are. There's more than the four species that are the target birds for most of the monitoring that goes on that feed on horseshoe crab eggs.

There are birds other than shore birds that feed on horseshoe crab eggs. In addition, there are fish species that we feel are probably feeding on horseshoe crab eggs, from the discussions that I've had with some of the horseshoe crab biologists. Yes, there's a lot of stuff feeding on the horseshoe crab eggs.

The question of whether any management action will help red knots because there's a whole bunch of birds feeding I think is a difficult question to answer in any concrete way. Red knot population, as far as we know, was a lot higher than it is right now.

There were more shorebirds of a number of species than there were in the past and the horseshoe crab population clearly appears to be less than in was in the say 1980s and so I don't know that I can give you an answer on that one. I think yes, probably with more horseshoe crabs there would be more eggs available, but that's not really answering your question in a very effective way, I'm afraid.

REP. ABBOTTT: If I may, I thank you for that answer, because I think that that answer is an answer to me.

MR. TRAVELSTEAD: I have just a few questions for Greg and mostly to clear up -- There

appears to be some disagreement amongst the different datasets that I hope you can shed some light on.

Number one, we've heard that the adult population in Delaware Bay has been relatively stable since 1998 and that the Delaware Bay Spawner Survey indicates that the index of spawning females has been stable since 1999 and in 2005 it even increased on the New Jersey side of the bay.

Then we also see New Jersey data that shows an apparent decline and so how do you reconcile those different datasets that seem to indicate opposites?

MR. BREESE: I'm not sure that I would call that opposites. One of the difficulties we have that we discussed as we've tried to come up with a model and an estimate of surface egg availability is there's abiotic factors that have a huge impact on whether eggs reach the surface and are available to shorebirds or not.

In addition to that, not all the eggs on the surface are available to shorebirds, necessarily. Some dry out and some get eaten by other things and so there's this huge question mark as to exactly how many horseshoe crabs it would take to provide X number of eggs on the beach.

The spawning survey being flat seems to have a relatively high level of confidence in that. However, it's not just flat. It's somewhere between flat and a small decline. How much that decline is affecting egg supply is a question that this committee has struggled with.

Whether the abundance of eggs is related to that or it's related to abiotic factors or it's related to consumption by the various predators to the eggs is a question that really needs more work.

MR. TRAVELSTEAD: The other area where I'm confused is the Fish and Wildlife Service sent a letter to the petitioners and in the letter it said that most of the red knots in Delaware Bay made satisfactory departure weights in 2005, but now we've seen data out of New Jersey that claims only 15 percent or 14 percent of the birds made satisfactory departure weights and so which is right?

MR. BREESE: I don't have a copy of that letter in front of me and so I'm not sure if the wording was exactly that. I do know that talking to our endangered species biologist who is working on that that she felt that an emergency listing under the

Endangered Species Act was not warranted at this time and that was the response that she gave me.

That is not to say that the population may not be declining or may not need to be listed under a non-emergency procedure or considered a candidate species, but I can't address that specific question right now.

MR. TRAVELSTEAD: I have one last point. Given what you've heard from the Horseshoe Crab Technical Committee today, what do you think of the male-only harvest strategy? Is it reasonable?

MR. BREESE: The committee talked some about that and the impression I have, sitting in both the Horseshoe Crab Technical Committee and the Shorebird Technical Committee, is that it's a very fine line to draw between a moratorium and a male-only harvest in terms of the effects on egg abundance or spawning crabs and I don't think either committee was able to really draw with any reasonable quantifiable way how much you could measure the difference between those two options.

MR. G. RITCHIE WHITE: I believe on your next-to-last slide you stated that a male-only harvest would have a decrease in egg production and I wanted to make sure that that was a correct assessment.

MR. BREESE: No, that it had the potential to.

MR. R. WHITE: Could you explain that?

MR. BREESE: The discussion was that there's some uncertainty with the life history and spawning behavior and that the committee was just uncomfortable saying that a male-only harvest would definitely have no effect. They felt it was important to point out that there was potential that it could have an effect and it could have a negative effect without having a specific mechanism to call into play.

MR. R. WHITE: I guess I also am curious as to why the Shorebird Technical Committee felt that this was an area that they should be commenting on and if they thought that that might be an area that the Horseshoe Crab Technical Committee should be commenting on instead.

CHAIRMAN MILLER: Let me just offer that I think we'll get to that in a few minutes when we call on the chair of the Technical Committee, Ritchie.

MR. KELLY PLACE: I have a concern similar to Mr. Travelstead's. These three sheets that were handed out to us shows the population counts of the red knot at the Delaware Bay and the second sheet, of course, shows the number of red knots reaching weight and as Mr. Travelstead suggested, about 14 percent in 2005 this handout says showing weight.

The exact verbiage in that letter from U.S. Fish and Wildlife, signed by the Regional Director, Marvin Moriarty, is this. I would like to read you three sentences, because there's an incongruity here of a factor of over four: "The birds stopping in the Delaware Bay in 2005 seemed to have a relatively good year. During spring of 2005, peak numbers of migrant red knots observed during serial counts of the Delaware Bay stopover area increased slightly over 2004 peak counts. Although the red knots departed from Delaware Bay for the Arctic about five days later, on average, than in the previous years, the majority of the red knots had reached satisfactory body weights prior to departure."

When it says the majority, I take that to mean over 50 percent, but when I look at the population count of 15,300 and this second handout says only 2,148 of those reached the right departure weight, I'm curious. Is the Regional Director of the U.S. Fish and Wildlife off base or is this other handout that I have?

That incongruity, as I mentioned, is more than a factor of four and so did they achieve satisfactory body weight in 2005 or not? I'm just somewhat confused and maybe I'm missing something here.

MR. BREESE: No, I think that's a good question. I can't answer it. I don't have the data that Annette was using to support her statement. What you're seeing here and what I presented here was the index that was agreed to by the Shorebird Technical Committee and I'm not sure if that may play part of the problem, but I can't answer the question is the final answer to explain that incongruity that you're pointing out.

MR. PLACE: If you would like a copy of this letter, I would be more than happy to provide it to you. It's from, like I said, Marvin Moriarty to the Defenders of Wildlife on January 16th of this year. Thank you very much.

MR. HIMCHAK: Greg, I've got a question for you on the last slide you presented on your Technical Committee report. Based on these indices,

the committee agrees that the most risk-averse option for shorebirds is a full moratorium. Did you set any geographical boundaries on where this moratorium would extend to?

MR. BREESE: That's a good point. The committee was running out of time and did not set geographic boundaries, but I think that it probably was focused on New Jersey and Delaware in that discussion and that's what is meant by that. I would have to check with the committee to clarify that though.

CHAIRMAN MILLER: Seeing no additional hands from the board at the moment --

DR. MICHAEL RHODES: I had a question on the egg density studies, which I think are a lot of the crux of the matter. We got several pieces of information sent to us reporting egg densities decreased by 15 to 20 percent, from 50,000 to 100,000 eggs per meter down to 1,500.

We received two pieces of information right now and one is the egg density on New Jersey Bay beaches, which is the graph that shows eggs around 1,500 eggs per meter squared, but in the technical report you reported eggs at 49,000 eggs per meter squared and 19,000 eggs per meter squared. Are they different sampling techniques? I just don't understand that difference.

MR. BREESE: Those are two different monitoring programs. The one that was handed out today is from New Jersey's Egg Abundance Survey and the committee didn't have that when it was discussing and preparing its report.

What I presented to you earlier today was the results from the Bay-Wide Egg Abundance Survey and that's designed to provide an index bay-wide and it's only in its first year and so it doesn't show a trend.

It uses a different methodology so that the numbers are different and not strictly comparable, which is why New Jersey is doing side-by-side boat surveys, so that they'll be able to use that historical data in the future.

MR. AUGUSTINE: I have just a point of information. We've got a lot of pieces of paper floating around here. We killed an awful lot of trees and didn't help the red knots and didn't help the horseshoe crabs, but the difficulty of what I'm looking at here is these last three pieces have zero identification on them.

They don't have a date on them and they don't have any identification other than just three charts of information and it was just explained to me where they came from, but in order to make a final assessment later on, this is another one of where did these come from and so it would be helpful if we had some identification on these.

CHAIRMAN MILLER: Thank you, Pat. Those three pieces of paper appeared in front of me as well and I'm not entirely sure of their origin. Greg, would you like to enlighten us on the origin of these three pieces of paper and what level of review they've had?

MR. BREESE: Certainly. The committee, when it met, agreed on some indices or monitoring studies to use to assess the population. In the time that was available before this meeting, not all of those were provided to me to include in the final report.

This morning, I got an email from Dr. Larry Niles, who is in the audience, and he said he was bringing these pieces of paper to provide to the board, which the original intention was to put in the report, but they have not been seen specifically by the committee at this point.

MR. AUGUSTINE: Mr. Chairman, if I may, it's awful difficult to submit this information at this time to this board and expect us to, one, evaluate it and, two, have our Technical Committee look at it to see how valid it is, and, three, to have your committee review it and for us by a time certain make a decision that's going to affect the economic status in four states. It's really difficult to accept it this way.

I'm not sure what we can do with this information other than question it and put it in our pile of information. I wish there was more validity to it where we could say yes, this is concrete and we feel comfortable making our decision on it and so that's my concern.

CHAIRMAN MILLER: I think the points you raise have validity, Pat, and everyone heard what you said about them and probably will keep them in mind as they look at those pieces of paper. I did want to call on Mike Millard to see if the Technical Committee chair had any comments concerning the areas that the Shorebird Technical Committee brought up when they touched on population dynamics of horseshoe crabs.

MR. MILLARD: Thank you, Mr. Chair. I do have some comments. It should be evident from my colleague Greg's presentation that the Shorebird Technical Committee spends a great deal of its time reviewing horseshoe crab literature and in fact, reviewing reviews by the Horseshoe Crab Technical Committee.

Mr. White called this into question and he's not the first to do so, believe me. You recall the last meeting, the board meeting here, I spent a great deal of time relaying the results of a Horseshoe Crab Technical Committee meeting where we had Dr. John Brodziak, one of the best fisheries scientists that Woods Hole could give us, and Dr. Rich Wong and we reviewed the three new pieces of literature that came before the Horseshoe Crab Board, one being the mark-recapture population estimate.

We spent two full days going through every assumption, every analysis, every conclusion reached in those papers. Since that time, the Shorebird Technical Committee has felt compelled to do their own review of that paper at their last meeting and provide their commentary in their report, which is before you today.

Whether that's appropriate or not, I leave that to you, but as the chair of the Horseshoe Crab Technical Committee and as one of the authors on the paper, I want to point out to you that they had that discussion and formed these comments without having read the paper itself. Let me repeat that. They did not read the paper itself, yet they feel empowered to present --

It's disparaging of the report, not surprisingly, to you folks. That goes beyond inappropriateness, in my mind, and verges on unprofessional. The good news is that I know you folks, the board members, are savvy enough to know the context of this type of commentary and give it the appropriate weight.

What concerns me though is that this sort of committee persona does not bode well for productive and objective communication, cooperation, and collaboration between the two technical committees. It's not productive.

These committees, or at least the Horseshoe Crab Technical Committee, serve at the pleasure of you folks, the board. The Shorebird Technical Committee is sort of -- It's a gray area. It's a quasi committee, as best as I can figure. I'm suggesting it needs a little bit of oversight.

My colleague Greg, who is the chairman of the Shorebird Committee, he's not surprised by these comments and these are no reflection upon him. If it weren't for his continual refocusing efforts at these meetings, I'm convinced that committee would be further afield than it is now and so with that, I will thank you for the few minutes, Mr. Chair.

CHAIRMAN MILLER: Thank you, Mike.

DR. LOUIS DANIEL: I'm venturing outside of my area of expertise here, but I did have a question I guess for -- One statement that concerned me a little bit was the comment that there are other data available that we haven't analyzed and used in some of these assessments.

The other thing is I was very interested in this other report that was handed out today about the semipalmated plovers and I know that in terms of size they're fairly similar or at least it's not the difference between a curlew. They're fairly close.

The energetics information is inconsistent for the semipalmated plovers than it is for the red knots and that's interesting to me, why their energetics and everything looks like it's going up, based on there were no differences between the energy accumulation rates from 1995 to 1997 and those caught 2000 to 2005.

That's kind of inconsistent with a crisis situation on horseshoe crab eggs for red knots if they're not for the semipalmated plovers, because I would think they would be just as apt to be spooked away by black-headed gulls, or whatever the other birds were that were in the pictures, as the red knots were. I don't know if you agree with me on that or not or if I'm missing something in this analysis, but it doesn't seem like it's a problem for plovers and why is it a problem for red knots?

CHAIRMAN MILLER: Comments, Greg?

MR. BREESE: You're talking about semipalmated sandpipers as opposed to plovers and it's the New Jersey Audubon -- You're looking at graphs that do not do the same thing as show you a percent of birds that reach a target weight and I think if you saw the graphs that would be like the ones used for those, you would be getting a slightly different picture, but I'm not sure --

The semipalmated sandpiper and the least sandpiper work is done for the purpose of comparing their weight gain as opposed to providing an index of how

many birds are estimated to have reached a threshold weight. I don't know if that really answers your question.

DR. DANIEL: Not really, because Figure 10 shows that the increases in adjusted weight are very similar and maybe no significant differences with the error bars around them between those time periods and it's surprising to me that you wouldn't see that trend going downward.

The energetics would be worse over time if the horseshoe crab problem was causing a concern here. Why you're not seeing this same phenomenon with the sandpipers versus the red knots, it seems to be a disconnect there between the two, because I would expect them to behave fairly similar.

MR. BREESE: Let me try again. Figure 10 is the least sandpiper and Figure 8 is the semipalmated sandpiper. The value of those two graphs is showing that in those two time periods studies least sandpipers, which do not rely on horseshoe crab eggs, have had a similar weight gain and the semipalmated sandpipers, which do rely, to some extent, on horseshoe crab eggs, have had a different weight gain pattern in those two time periods.

These aren't graphs that show red knot weight gain and I don't think anybody is saying that no red knots gain any weight or decline in weight. The question is how much of the population is gaining enough weight to have a successful breeding season and we're not strictly trying to compare semipalmated sandpipers and red knots with the exact same indices.

DR. DANIEL: That answers my question. If the Technical Committee can address the comment -- I think there was statements that were some indices that had not been looked at yet or some survey results that had not been looked at in the assessment in your previous comments.

MR. MILLARD: I'm trying to think what those might be.

MR. BREESE: I'm wondering if you're referring back to a comment that was made that not all of the indices that the Shorebird Technical Committee agreed were the most appropriate were included in the report. At the meeting, those were provided verbally and then the intention was to provide them in the report, but that didn't happen in the week that was available to compile that.

CHAIRMAN MILLER: If there are no more burning questions from the board on this particular agenda item, I suggest we press onward. Is this something new?

MR. PLACE: Yes, I have a genetic question of Mr. Millard and then a quick question for either MR. Breese or Millard. It's my understanding that the male-only harvest proposal that you spoke of earlier, that probably 1 percent of males would be harvested over a two-year time period and I think that most people thought that genetically that wouldn't have a huge effect, if anything measurable.

Given Dr. Shuster's characterization of the unattached males as either dying or pitted or broken claspers or whatever else would result in them not being a successful genetic component of the spawn, would it be reasonable to assume that that 1 percent of the males in the population of the Delaware Bay that the genetic contribution, the genetic component, after June 7, which is when the hand harvest ends, that it would even be less than the 1 or 2 percent?

In other words, those unsuccessfully spawning males hand harvested after the spawning time takes place, even though they represent a percent of the population, would it be reasonable to assume that they would not contribute anywhere near 1 percent of the spawning success? Would that be a reasonable assumption?

MR. MILLARD: I hate to do this, Kelly, but can you ask that in a different way?

MR. PLACE: The superfluous crabs that Dr. Shuster characterized as not being a significant contributor to the spawn genetically, yet they represent 1 percent say of the population in the Delaware Bay and 1 percent would be harvested in the male-only harvest, thought it would be after June 7, and would it not be reasonable to assume that that 1 percent of the population harvested after June 7 would not make up 1 percent of the potential genetic contribution because they're old and as he said, dying or have broken claspers or anything else.

By harvesting these unattached males, which don't tend to spawn successfully, and which represent 1 percent of the population, would it be reasonable to assume that their harvest would represent a fraction of that 1 percent as far as genetic contribution?

MR. MILLARD: I suppose you could argue that, because you just did, but --

MR. PLACE: I just wonder if it's a reasonable assumption.

MR. MILLARD: I can't really --

MR. PLACE: In other words, say we harvested 1 percent of people and they were all over seventy-years old, that would be reasonable to assume that they weren't going to contribute the 1 percent genetically, right?

MR. MILLARD: I can confirm that yes, crabs that die will not contribute to the next spawning, but that's about as far as I can go with that.

MR. PLACE: Ergo, the harvest of those crabs would not contribute to a diminution of the genetic potential.

MR. MILLARD: If they were to die then yes, that's correct.

MR. PLACE: My last and quick question for either you or Mr. Breese is the composition of the Shorebird Technical Committee where we're getting these incongruities as far as other documents we've seen, the people that make up that committee are they affiliated with groups or are these independent scientists? I would presume they are, but I don't know.

Are the scientists on the Shorebird Technical Committee independent in nature or are they advocates, for example? I would presume that we have independent people without agendas or axes to grind or anything like that?

MR. BREESE: The committee members are a mixture of representatives from the State of New Jersey, Delaware, New Jersey Audubon Society, National Marine Fisheries Service, U.S. Fish and Wildlife Service, Canada, the Royal Museum of Ontario, and USGS.

MR. PLACE: Have we been provided -- I probably have it here, we've got so many documents, but have we been provided a list of the Shorebird Technical Committee members and their affiliations? People are holding it up. Thank you, Mr. Breese and thank you, Roy.

DR. JAMIE GEIGER: I just want to thank both the technical chair people for their frank and candid discussion. Certainly I want to remind the Policy Board that the Fish and Wildlife Service was asked to form and assist in putting together the

Shorebird Technical Committee and I just want to thank them for all their input and their advice to this management board.

Certainly what I think we're also seeing is an evolution in terms of a true ecosystem approach to management and I think we're seeing an evolution indeed on both technical committees and I noted with great interest some recommendations that both committees needed to get better integrated or better synchronized and have more interactions.

I would respectfully ask both committee chairmen any specific ideas on how we can better integrate the work of both these committees to achieve some common goals and objectives. Thank you, Mr. Chairman.

CHAIRMAN MILLER: Thank you, Dr. Geiger. I think it best, for the sake of time, to move on if we could. I'm going to call on the Chairman of the Advisory Panel, Jim Cooper of South Carolina, for an Advisory Panel Report.

ADVISORY PANEL REPORT

DR. JIM COOPER: Thank you. I'm compelled to concede that I'm genetically insignificant. As a means of introduction, I recall this morning that it was about thirty-five years ago to the date that I helped set up the first bleeding facility in Chincoteague, Virginia for the biomedical application of the horseshoe crab. I hope that anecdote doesn't date me too badly. I was only five years old at the time.

You should have before you the Horseshoe Crab Advisory Panel Report. It's two pages and this is a report from our conference call of April 26th where about ten of us got together after having reviewed the material, much of which we are discussing this afternoon, the research and the monitoring findings.

We would think that the best science available here -- My members agreed upon the fact that there was a strong case for the status quo. However, the panel reached a consensus on a combination of risk-averse management options to the Addendum IV in response to the perceived needs for the migratory shorebirds.

Several members noted a poor link between the cause and effect of horseshoe crab eggs limiting the population recovery of red knots and, of course, it was not clear to us that eliminating the harvest would have a measurable, positive effect on the red knot population anytime soon. We also noticed that red

knots themselves feed on other materials and one member commented that the crabs feed on a lot of the same prey as the migratory shorebirds.

While the panel members believe that the best available science supports status quo, they have asked me to bring forward their positions on this and their options. They believe that the following options are a reasonable and balanced approach to address the perceived needs of the shorebirds and allow a limited commercial fishery to survive.

With respect to the New Jersey and Delaware, the panel endorses Option 2 for a delayed male-only harvest as an interim management strategy, two years. The proposal is designed to maximize female escapement from the harvest and improve foraging conditions for the birds and allowing a limited harvest of the males.

A full moratorium of two years, or Option 3, is inconsistent with the goal of the FMP to manage the horseshoe crab for continued use by the fishing public and raises questions related to the commission's standards for fishery management. There was also a concern among the panel that the next step after a moratorium on harvest would yield to a no possession law.

For Maryland and Virginia, the panel endorses Option 2, the delayed harvest for Maryland, and Option 4, which is a multiple measure step for Virginia. Female escapement from the harvest off the Maryland and Virginia coast we believe have very little impact on egg availability in the Delaware Bay. Limited migration, of course, has been pointed out in the study by Swan, 2005.

This goes on to the biomedical then. The panel then endorses Option 1, which is status quo. The mortality of the crabs from the harvest of biomedical use and the bleeding process is low and we don't believe there's a justification for regulating biomedical harvest at this time.

Option 2 is not appropriate because the females provide more blood and to make up for that, many more males would have to be captured. The biomedical members pointed out that the mortality in the industry is not caused by the bleeding process. Rather, it's linked to the natural mortality factors and specimen handling activities and that our focus is careful handling during the catch and release procedures to minimize the mortality. Thank you.

CHAIRMAN MILLER: Thank you, Jim.

Any questions for the Chairman of the Advisory Panel from the board? Seeing none, my intentions are to press on and call on Brad for a summary of the Draft Addendum IV public comments and then to have a five-minute break.

We have been here several items now and then we'll move on to the final agenda item, other than those that we added at the very end. We'll get into the discussion of Addendum IV options immediately after the break. With that, I'll call on Brad.

SUMMARY OF PUBLIC COMMENT ON ADDENDUM IV

MR. SPEAR: In a supplemental mailing to the board, you received both summaries of all the public hearings, the written comment that was submitted, and you were provided the actual comments that were submitted on a briefing CD. What you're receiving now are comments that were submitted since that time, I believe from Congress, for your consideration.

First I'll go through the individual state public hearings. The first was held in Old Lyme, Connecticut. ASMFC was not in attendance, but the summary was provided by Connecticut. There were nine public attendees.

One of those supported Option 2 for New Jersey and Delaware for the bait harvest. Three supported Option 3, a full moratorium, and two supported Option Number 5 for Maryland and Virginia and two also supported Option Number 1 for the biomedical harvest, status quo.

Some of the additional comments at the meeting were to consider the impact of a moratorium on redirected effort and that the male-only fishery option is not based on science; that mortality from the biomedical process in the literature is about 10 percent and few people in the world have not benefited from LAL, which is the product extracted from horseshoe crab blood; lack of complete data is no reason for inaction; previous regulations haven't had enough time to work; and beach erosion, habitat loss, and pollution play a role in the decline of red knots, but horseshoe crab eggs are the biggest cause of the decline.

A hearing held on the same night was in Berlin, Maryland. ASMFC staff was in attendance. There was approximately forty-five from the public in attendance. Two of those supported Option Number 2, status quo, for New Jersey and Delaware; three supported Option 2, the delayed male harvest; and

two supported Option Number 3.

For the Maryland and Virginia options for the bait harvest, four supported Option Number 1, status quo; two supported Option Number 2. One of those supported that option, the delayed harvest, for Maryland only. One supported Option Number 3; one supported Option Number 4, the Virginia only option; and two supported Option Number 5, the moratorium. There were eight people from the public that supported Option Number 1 for the biomedical harvest.

Some of the comments that we heard at that public hearing was no male-only harvest, because there is no proof that it will increase egg abundance and it's difficult to enforce; a moratorium would negatively affect the Asian population of horseshoe crabs; a moratorium on the biomedical harvest would have a considerable negative impact on human health; horseshoe crab eggs are not a limiting factor to red knot population; should further promote gear innovations and alternative baits; and there was a recommendation to develop artificial food for the shorebirds.

At the hearing in New York, on Long Island, there was about -- I think this was the highest attendance, at about fifty-five members of the public. For the bait harvest, there were seven that voiced support for Option 1, status quo, for New Jersey and Delaware.

There were five that voiced support for Option Number 3, the full moratorium. For Maryland and Virginia, there were seven that supported Option Number 1 and one that supported Option Number 5. For biomedical, there were seven that supported Option Number 1 and there was one that supported the full moratorium of biomedical harvest if there's a moratorium on bait harvest.

Some of the comments that were heard was to find a way for limited catch to protect the horseshoe crab and the fishermen; also a no male-only harvest, because it was designed by industry and there is a need for multiple males for maximum fertilization of horseshoe crab eggs; the moratorium is not consistent with the goal of the FMP; there is more money needed for horseshoe crab research; demand for bait has increased and shifted to New York as a result of previous regulations; the red knot problem is more difficult to fix than shutting down a fishery; and populations go up and down.

At the Delaware hearing on April 3rd, there was about thirty in attendance from the public. Five voiced

support for the bait harvest in New Jersey and Delaware for Option Number 1, status quo; two supported Option Number 2; and four supported the full moratorium for New Jersey and Delaware.

For Maryland and Virginia, three supported Option Number 1, status quo. One of those was just for support for status quo for Maryland. One supported Option Number 2 for Maryland only, and that's the delayed harvest, and two supported Option Number 2 and one supported the full moratorium. For biomedical, two supported status quo and one supported the full moratorium.

Again, some additional comments that we heard in Delaware, that there should be an initiative for funding programs similar to the bait bag program; if there was only a hand harvest of male crabs after the shorebirds leave Delaware Bay, it allows for maximum egg production; genetic concerns of male-only harvest are addressed spatially and temporally; no male-only harvest because satellite males do play a role and the role is unclear; again, consider another alternative bait workshop; and it is not proven that the current harvest levels of horseshoe crabs can sustain the goals of the FMP.

In Virginia, there were about thirty-five in attendance. Two voiced support for Option Number 1, status quo; one supported Option Number 2 for New Jersey and Delaware; and one supported Option Number 3.

Maryland and Virginia, three supported Option Number 1, one supported Option Number 2 for Maryland only, one supported Option Number 4, and three for the full moratorium in Virginia and Maryland and there were eight that voiced support for Option Number 1, status quo, for the biomedical harvest.

We also heard that further regulation in Chesapeake Bay would not benefit the Delaware Bay crab population; the biomedical company in Virginia has a 90 percent crab survivability; need to see an increase in red knots before lifting the moratorium; the moratorium is based on politics and not science; management is already working; red knots are adaptable to other food sources; and bird watchers and watermen are both important to the economy.

In New Jersey, there were about forty public in attendance. Three supported Option Number 1 for New Jersey and Delaware, one supported Option Number 2, and twelve voiced their support for Option Number 3. In Maryland and Virginia options, there

were four in support of Option Number 5, the full moratorium, and there were four that supported Option Number 1, status quo, for biomedical harvest.

Some of the comments were the moratorium should be lifted when there is a certain level of eggs on the beach and a small percentage of the total population of crabs are harvested for bait.

There was multiple comments that there is a need for a regional bay-wide approach and if we wait for an endangered species listing of the red knot, there may need to be more drastic measures.

Even if there is a moratorium, there will be a black market harvest of horseshoe crabs; the New Jersey bleeding facility would be at great risk if there was any other option chosen than status quo; the precautionary principle should be used when science isn't perfect; there's a need for a historical benchmark of the horseshoe crab population to determine current health; there's a need to attend to other issues affecting the environment; and there was also support for compensation to crabbers if further restrictions were made; beaches have declined, affecting both shorebird and horseshoe crab habitat; and there are other shorebirds in decline that feed on horseshoe crab eggs.

Getting into a summary of the written comment, the public comment period closed on April 17th. There were a little over 14,000 comments submitted by fax, email, and regular mail. Just over 1,400 were submitted by mail or fax and over 12,000 were submitted by email.

There were comments submitted by organization that spoke on behalf of their members and I summarized those separately later on this summary and there, as of Friday in the office, there was still letters and emails coming in, but those were not included in the summary.

Just kind of one of the criteria I used for the summary, there were a lot of comments submitted that explicitly stated support for a moratorium and did not specify location or harvest type. Those are included in the summary for all states in the addendum and all harvest methods. For example, that would be one vote for a moratorium in New Jersey, Delaware, Maryland, and Virginia and for the biomedical harvest.

The breakdown, there were two -- This is just the mail and fax comments, the 1,400. Two were in support of Option Number 1 for New Jersey and

Delaware, eight were in support of Option Number 2, and 941 were in support of Option Number 3, the full moratorium.

For Maryland and Virginia, one supported Option Number 1, eight supported Option Number 2 for Maryland only, and eight supported Option Number 4 for Virginia and there were ninety-five in support of Option Number 5. For the biomedical harvest, there were seven in support of Option Number 1, status quo; one in support of Option Number 2; and seventy-seven in support of Option Number 3.

Let's go through some of the comments that we heard: there should be a moratorium until the horseshoe crab population is restored; there should be an extension of the two year moratorium, and these are all individual comments to Long Island Sound, Great South Bay in New York, New England, and the Atlantic Coast; limit the harvest of horseshoe crabs to hand harvest to eliminate female mortality; the male-only harvest is consistent with the goal of the FMP and based on the best available science.

We heard many of the letters no male-only harvest and the only source of LAL is horseshoe crabs, the only natural source, and unnatural of LAL; there's no scientific justification for restrictions on biomedical harvest; there was the request to address researcher impacts to shorebirds; that previous management actions are working; and that there was research misconduct in the monitoring of red knots; shorebird viewing contributes significantly to the economy; there's a lack of correlation between crab harvest and the decline in red knot population; habitat degradation negatively affects both horseshoe crabs and the shorebirds; the red knots are exposed to the bird flu in the Arctic, mixing with the birds from Asia; and to set up a fund to compensate fishermen for lost income.

Like I mentioned before, there were comments submitted on behalf of organization membership. Also, the Citizens Campaign for the Environment submitted a petition with 3,521 signatures. Those were not counted in the total tally. This is additive. The petition had on it that it stated support for Option Number 3 for New Jersey and Delaware and Option Number 1 for the biomedical harvest.

The Maryland Ornithological Society submitted a letter. There were fifteen chapters in the society, approximately 2,000 members. They support New Jersey/Delaware option Number 3 and Maryland/Virginia Option Number 5 and the biomedical Option Number 1. They expressed

opposition for the male-only harvest.

Audubon New York has thirty chapters and about 50,000 members. They support New Jersey/Delaware Option Number 3 and Maryland/Virginia Option Number 1 and the biomedical harvest Option Number 1. They also expressed opposition for the male-only harvest.

Delaware River Keeper supports Option Number 3 for New Jersey and Delaware and Option Number 5 for Maryland and Virginia and also opposing the male-only harvest and also supporting economic incentives to encourage horseshoe crab harvesters to find alternative means of income.

The Great South Bay Audubon Association has six chapters and 6,000 members and they support New Jersey and Delaware Option Number 3. Defenders of Wildlife has approximately 500,000 members and supporters nationwide and it supports New Jersey and Delaware Option Number 3 and Maryland and Virginia Option Number 5, the full moratorium, and they expressed opposition for the male-only harvest.

A summary of the emails, the 12,000 emails received, about a little over 7,000 were essentially a form email. There were a couple other form emails and I'll summarize those separately. The summary I'll give right now is just a summary of the kind of unique emails that were sent out or the individual emails.

For the bait harvest in New Jersey and Delaware, six supported Option Number 1, six supported Option Number 2, and 191 supported Option Number 3. For Maryland and Virginia, six supported Option Number 1, one supported Option Number 2 for Maryland only, five supported Option Number 3, two supported Option Number 4, and 130 supported Option Number 5. For the biomedical harvest, twenty-one supported Option Number 1, seven supported Option Number 2, and ninety-seven supported Option Number 3.

Some of the additional comments that we heard and again, these are several comments wrapped into one: extend the moratorium to Connecticut, extend it to New York, and extend it along the whole Atlantic coast.

We also heard that we should do more research before taking action; fertilization of horseshoe crab eggs requires more than on male; a moratorium in the Mid-Atlantic will increase the value and demand for crabs in other states; the science does not support a male-only harvest; economic importance of bird

watching outweighs that of horseshoe crab harvesting; the bleeding facility in Maryland has a low mortality and has participated in cooperative research; ASMFC should not get involved in managing horseshoe crabs for shorebirds until the U.S. Fish and Wildlife Service lists the red knot under ESA; there's no science to show that if there is a moratorium there will be an increase in shorebirds; a moratorium should accompany a plan to mitigate financial impacts to watermen; there's a two-year moratorium on the harvest of horseshoe crab eggs; habitat protection is important for crabs and birds; and that previous addenda were passed on the board based on the needs of the bait harvest; and other shorebirds depend on horseshoe crab eggs for food.

Going through the organizations, the U.S. Shorebird Conservation Plan Council supported Option Number 3 for New Jersey and Delaware, Maryland Option Number 3, and for Virginia Option Number 4.

They suggested setting a quota for the biomedical harvest at 300,000 crabs coastwide and allowing a maximum of 60,000 to go to the bait market and they suggested the biomedical needs should be met before that of the bait needs in Maryland and Virginia.

The Sierra Club Maryland Chapter supported New Jersey/Delaware Option Number 3, Maryland/Virginia Option Number 5, and the biomedical Option Number 2 and they also supported a two-year moratorium in New York.

The New Jersey Audubon Society had six other organizations join in the comments that they submitted. They supported the New Jersey/Delaware Option Number 3, Maryland/Virginia Option 5, and biomedical Option 1. This was one of the organizations that had one of the form letters that were submitted and included in the packet.

Audubon New York has, again, thirty chapters and 50,000 members. They support Option Number 3 for New Jersey/Delaware, Option Number 1 for Maryland/Virginia, and status quo for biomedical harvest and they oppose the male-only harvest.

The Audubon Society Wintu Chapter from California has 350 members. They support New Jersey/Delaware Option Number 3 and oppose the male-only harvest. Defenders of Wildlife, this was where a bulk of the form emails came from, supports and members of the Defenders of Wildlife. Generally, they supported the New Jersey/Delaware Option Number 3 and Maryland/Virginia Option Number 5 and opposed the male-only harvest.

The Delaware Audubon Society submitted a letter that was addressed to Roy Miller. They stated that they have about 1,500 members and support the New Jersey/Delaware Option Number 3. The American Littoral Society supports New Jersey/Delaware Option 3, Maryland/Virginia Option 5, and biomedical Option Number 1 and opposes a male-only harvest.

There was also a packet forwarded to ASMFC by the State of New York. The State of New York Commissioner I believe received a number of emails regarding Addendum IV. We tallied seventy-two emails and sixty-five of those voiced support for New Jersey/Delaware Option Number 3, fifty-five supported Maryland/Virginia Option 5, and fifty-five also supported biomedical Option Number 3. Thank you.

CHAIRMAN MILLER: Are there any comments or questions from the board for Brad? Seeing none, I would like to, on behalf of the board, just express my appreciation to Brad and perhaps other ASMFC staff for compiling a remarkable number of comments and thank you.

MR. SPEAR: I would like to echo that. I did not do this by myself. It was a complete team effort on the part of the staff at ASMFC and so everybody gets kudos.

LAW ENFORCEMENT COMMITTEE REPORT

CHAIRMAN MILLER: I have one more thing before the break and I'm going to call on the Law Enforcement Committee and Aaron Hurd of Delaware with the support, if he needs it, of Mike.

MR. SPEAR: I'll quickly give the Law Enforcement Committee report and if there are questions, the law enforcement representative, Aaron Hurd, is here to answer any questions. I believe Mike Howard is also here.

Just comments specific to the addendum from the Law Enforcement Committee, the New Jersey/Delaware bait harvest, Option Number 1, status quo, underreporting is still a problem and it's difficult to monitor. Aggressive and time-consuming targeting is required to obtain overall compliance.

Part A of Option Number 2, which is the moratorium on male and female harvest until June 1st, is easily enforceable. Part B of Option Number 2 for New

Jersey and Delaware is the male-only harvest and it's difficult and time consuming and more effort would be required for a high level of compliance and Option Number 3, a full moratorium, is enforceable.

In Maryland and Virginia, status quo is the same for New Jersey and Delaware. Option Number 2, which is the delayed harvest opening June 8th is easily enforceable and monitored. Option Number 3 is the delayed male harvest and it's the same comments for the New Jersey and Delaware Option Number 2. Option Number 4, the two-part option for Virginia, Part A is difficult to enforce and requires enforcement at sea with higher effort than current levels and Part B is the minimum two-to-one male to female ratio and it would require more resources to ensure compliance and for the full moratorium, again, it's enforceable.

For the biomedical harvest, ensuring catches are reported is difficult and underreporting of 50 to 60 percent was observed in a recent surveillance operation. Option Number 2 was the same as the delayed male-only harvest and Option Number 3, the moratorium on biomedical, is, again, the same as the moratorium and enforceable.

CHAIRMAN MILLER: Are there any questions from the board on the Enforcement Committee Report?

MR. TRAVELSTEAD: I would like to know a little bit more about the committee's feelings on Part A of Option 4, the multiple measures approach for Virginia only. You seemed to indicate that enforcement of a prohibition of landing of horseshoe crabs from federal waters would require at-sea enforcement and be difficult and I don't quite understand that.

In Virginia, almost all of the crabs that will be harvested in the EEZ will be taken by trawler and so the mere presence of horseshoe crabs -- Because we do not allow trawling in state waters, the presence of horseshoe crabs on a trawler would lead one to believe with a high degree of reliability that those were harvested from federal waters.

Most of the gear that we use in Virginia to harvest horseshoe crabs is area specific. If it's caught in a pound net, you know it came from Chesapeake Bay. If it's caught in a trawler, you know it had to come beyond the three-mile limit. Is there any further explanation?

CHAIRMAN MILLER: Aaron, would you

want to comment on that or Mike Howard?

MR. MICHAEL HOWARD: Mike Howard, Law Enforcement Committee. These comments were derived from discussions with Colonel Steve Bowman. Yes, it is true that the fishery is generally a trawler outside the co-regulations line. Whether they're out there or not, it required at-sea boardings to monitor that in fact they are outside it.

If there's a high compliance in that fishery now and that's where they're catching their horseshoe crabs also, then it can to some degree be assumed that it's going to be a high compliance in the horseshoe. To monitor that though requires at-sea boardings to ensure that they do stay in those waters that they're required to be in. That's his reference point.

It is more difficult than if everything was open and he didn't have to worry where they were coming from. A trawler has to be monitored where it's at and so having said that and having heard your explanation, I wouldn't want to say anything additional than what Colonel Bowman has said to me, other than to surmise that if the enforcement is going on now to monitor those trawlers and you're going to restrict those trawlers to those federal waters, then the same amount of effort will be required to monitor them in that area versus less effort if everything was open to trawling.

MR. TRAVELSTEAD: Just a follow-up, Mr. Chairman. They're obviously -- Because we do not allow trawling anywhere in the State of Virginia, there is a consistent effort on the part of our law enforcement division to monitor all trawling activity off Virginia through boats and aerial surveillance. I don't see it as adding an additional burden on law enforcement there.

Secondly, the number of trawlers that we have that are licensed to land horseshoe crabs in Virginia is quite small, I think less than a dozen. Again, I don't see that as being an overly burdensome requirement. Thank you.

CHAIRMAN MILLER: Thank you. If there are no other comments for the Law Enforcement Committee, I would like to beg the board's indulgence for two things. One, I would like to step down temporarily as Chair of the Horseshoe Crab Technical Committee and turn the gavel over to Robert Boyles, our Vice Chair.

Two, what I would like to do is take a five-minute break with some trepidation, because we have a lot to

cover, and specifically the Addendum IV options. Why don't we be religious about returning at 4:10, if we could, under your new acting chair.

(Whereupon, a brief recess was taken.)

ADDENDUM IV OPTIONS DISCUSSION

VICE CHAIRMAN ROBERT BOYLES: If the Horseshoe Crab Management Board members could take their seats please, we've got a lot of stuff to get through. Folks, if we can get started. Before we go into the agenda item discussing the options for Addendum IV, Pete Himchak has asked for a couple of minutes to give an update on where the State of New Jersey was with their actions.

MR. HIMCHAK: I guess we're moving into the difficult part of the agenda and to address in Addendum IV the management options related to New Jersey and Delaware, I would like to give you an update on where New Jersey is in its regulatory process relative to the options.

Following the November 2005 board meeting, I was the genesis of Addendum IV. The Department of Environmental Protection in New Jersey took the sentiments of the discussions at that board meeting and ran with them, essentially getting a regulatory proposal with a sixty-day commenting period and an adoption document done within record time to essentially implement a moratorium before the shorebirds arrive in 2006.

Everything in the transcript from November indicated that time was of the essence. Everything is being predicated for the benefit of the shorebirds and our department put a regulatory proposal together.

As I said, we had a sixty-day commenting period. It is scheduled to be published in the *New Jersey Register* on May 15th, which would be well in advance of the resumption of hand harvesting in New Jersey, which is scheduled for June 8th.

The regulatory proposal sunsets December 31st of 2007 and so the motion was for a two-year moratorium and we have crafted one for 2006 and 2007. It is important to note that our regulatory proposal is not based on horseshoe crab stock assessment, exploitation rates, and horseshoe crabs relative to the stock, even the trend analysis on the horseshoe crab stock itself.

The basis is on providing immediate relief to the shorebirds by increasing availability of horseshoe

crab eggs and at March 30th, our Marine Fisheries Council, which has veto power over department regulatory proposals, was faced with a very difficult decision on they could have vetoed the moratorium proposal by a majority vote.

They voted not to veto the regulatory proposal and so it went through its public hearing process, the continuation, and it will be adopted May 15th.

I disagree with the -- Again, our Marine Fisheries Council is -- I think they would appreciate the support of the board here in backing up their rather bold decision on the moratorium and, again, it recognized the ecological role of the horseshoe crab and supplying the needs of shorebirds and other dependent wildlife.

I would be willing to make this brief and to offer a motion to adopt Option 3 for New Jersey and Delaware, a full moratorium on the landing of horseshoe crabs in the commercial bait fishery. The only problem that I can see is that we want to make it clear that in our case we have already set the course for 2006 and 2007 as our two-year moratorium. What Delaware is able to do or will be able to do in 2006, I cannot comment on, but maybe I'll let Roy follow my discussion here.

VICE CHAIRMAN BOYLES: Pete, thank you. Before we get into that, it was my intention that what we would do is split out the three components that we're dealing with here and take them sequentially. There's a lot of stuff to go through and if it pleases the management board, I would like for us to take these up sequentially, the first the Delaware/New Jersey component.

After that, we've elected we can hear discussion and get public comments on that and then move to the Maryland/Virginia component and then finally, the biomedical. That was my intention, for us to just keep things cleaner. I would like to proceed that way, unless I see objection from the board. Let's go that way then. Is that fair?

Before we do that, Bob, maybe if you could -- This is an item requiring final action and I know that the ISFMP charter is fairly clear with respect to some of the rules that will guide our discussion and so can you share that with us, Bob, just for a second?

MR. ROBERT BEAL: Sure, gladly. The ISFMP charter includes details that any meeting specific proxies for governor-appointed commissioners or legislative commissioners do not

participate in a state caucus and voting on final action.

If there's any meeting-specific proxies here, when we get to a vote on any motions that lead up to the final approval of this addendum, those meeting-specific proxies for governor-appointees or legislative commissioners should not vote on those actions.

VICE CHAIRMAN BOYLES: With that, what I would like to move into is that first component, the Delaware/New Jersey.

MR. MILLER: Mr. Chairman, I'll second the motion for discussion purposes.

VICE CHAIRMAN BOYLES: Is there any discussion?

MR. MILLER: Pete alluded to Delaware's position with regard to the New Jersey action to impose a harvest moratorium in 2006. Delaware will be unable to impose a harvest moratorium in 2006. Approximately 54,000 horseshoe crabs have already been harvested by our horseshoe crab dredge fishery.

Our beach collecting season opens June the 8th. Delaware is statutorily unable to implement emergency regulations for horseshoe crabs and there simply isn't time to do it by the normal regulatory process, which is approximately a four-month process.

The reason we're unable to do it by emergency regulations is we have to show burden of proof that there's imminent peril to the horseshoe crab resource itself and no one is alleging that at this point in time.

Therefore, Delaware will not be able to participate in a moratorium, if that's approved by this board, until 2007. Having said that, New Jersey's action leaves us as a board with a bit of a dilemma. Generally speaking, Mr. Chairman, it's been my experience that when a state takes conservation action prior to the passage of a plan it's seldom, in my recollection, that the state is, shall we say, given credit for that conservation action take prior to a plan, although it's probably not without some precedence in the commission.

I think the board needs to decide pretty early on in this process if this motion were to pass if it would apply to New Jersey for 2006 and 2007 and to Delaware for 2007 and 2008 or just what in that regard.

MR. TRAVELSTEAD: Mr. Chairman, I think all of us around the table recognize that any state can always take action that is more conservative than options that might be adopted in a management plan.

We all look at our own data and we listen to our own citizens and we sometimes come to different conclusions than we might as this body sitting around the table and based on what I heard today from both of our technical committees, it seemed to me that there was a very fine line of difference between the benefits derived from a full moratorium and those derived from the partial moratorium under Option 2.

That seemed to me abundantly clear from the two committees. How often in this business do we get an opportunity to adopt an option that provides us with virtually the same benefits as a total moratorium and still allows fishermen to fish in any fishery? We would jump on that.

I think that's what we've got to do here today and so with that, Mr. Chairman, I would like to offer a substitute motion for New Jersey and Delaware of Option 2, the partial moratorium. I would also like to add to that option -- I recognize that Delaware and New Jersey are concerned about the resource and concerned about its status and its effect on the shorebirds.

I think there may also be an opportunity to simply lower the quotas in those two states. **I believe right now they're at about 150,000 crabs and I would suggest that they should be lowered perhaps to 100,000 crabs and so I would like to make that as part of the substitute motion as well.**

Again, I think it's an option that offers real benefits to the resource, real benefits to the shorebirds. It's not an option that is all that different from a total moratorium and recognize that a total moratorium not only affects Delaware and New Jersey fishermen, but it affects fishermen further down the coast and that too is why I offer the motion as well, knowing that it will help benefit some Virginia fishermen.

VICE CHAIRMAN BOYLES: Motion by Jack Travelstead. Is there a second? Vito Calomo seconded.

MR. HIMCHAK: I would just like to offer a couple of question regarding Jack's statement on the two technical committee comments. We have to remember that they're dealing with different objectives of the same FMP and that the Shorebird

Technical Committee was developed to address a specific objective that was beyond the capabilities of the Horseshoe Crab Technical Committee.

The other point I would like to make is that, again, the Option 2 issue as to will it get you to the same place with allowing fishing to continue, within our department we considered the moratorium as the most risk-averse approach to take and so that is why we selected the moratorium.

MR. VITO CALOMO: I think that I listened real clear to the public comment and the fisherman named Charlie out there I guess spoke for a lot of fishermen up and down the coast, because they are getting eliminated from many of the coastal regions and communities from Maine to Florida.

I think eliminating a fishing group is very easy to do. What's hard here is what Jack Travelstead said, it's a balance. He didn't use that terminology, but it's a balance. Under fisheries management, we seem to have a history of either allowing too much fishing or allowing no fishing, extremes on both sides.

I feel that this is a balance and I think that this is the right motion and therefore, that's why I seconded it and will support it. Thank you, Mr. Chairman.

MR. GORDON COLVIN: I wholeheartedly agree with Vito that this is a difficult and delicate question of balance and I think that in my own judgment my balance falls just a little bit differently and let me explain why.

I'm thinking back to the discussion that occurred at a previous board meeting when we started down this road when the New Jersey Fish and Wildlife Director, then Director, Marty McHugh addressed us and explained the reasoning of his agency for suggesting that we proceed with a moratorium.

For many, many, many years our sister states, our neighboring states, of New Jersey and Delaware have been stewards of a remarkable resource on the shores of Delaware Bay and I find myself persuaded that the balance of this issue should fall to the advice of those states and of the New Jersey Fish and Game Council, as Pete has pointed out to us, and their decision making.

It is a judgment. It's a delicate judgment. They have urged us to act in a precautionary manner given the current status of the red knots and the concerns about other shorebirds and for that reason, despite the fact that there are clearly many meritorious elements to

the substitute motion, I would prefer that we follow the advice of the stewards of those resources and adopt the original motion offered by Mr. Himchak. Thank you.

DR. DANIEL: I'm very intrigued with Jack's substitute motion and agree with him that when you have an opportunity to select between two alternatives, one of which is a moratorium and the other of which has the same effect as a moratorium, but allows the fishermen to continue to operate, it seems like that's an important thing to take into consideration.

Where I guess I'm coming down on this whole thing is, from hearing the technical committee reports, there seems to be a lot of confidence in the statement that a male-only harvest would be sustainable at the level recommended in the addendum and there seems to be a very high level of certainty in that statement.

There seems to be a very low level of certainty in the statement that a moratorium will positively impact the red knots, because we just don't know what the impact is going to be. That's the way I'm looking at the question. I see a lot of certainty and I don't see a lot of certainty and I see a pretty neat and novel alternative.

DR. GEIGER: Certainly I think we all want to be fair, balanced, and equitable and look out for the overall objectives of resource conservation, be they be for horseshoe crabs or for migratory shorebirds.

Certainly I think both proposals have merit and certainly I am also aware that the states can be more conservative, if they so choose, to conserve the resource. That is their choice, but then again, I'm also reminded that, again, Delaware and New Jersey, and indeed all of us, are stewards of a variety of resources.

I think they are indeed also asking for our support as part of this process. Mr. Chairman, I would like to ask the delegate from Delaware, Roy, is it the intention of your state, if you had the regulatory authority to do so, to impose a full moratorium on horseshoe crab harvesting?

MR. MILLER: You mean in the absence of action to that effect from the ASMFC? Is that the question you're asking?

DR. GEIGER: Yes, sir, that is my question.

MR. MILLER: Of course, that will require some internal decision making, but the guidance that I have gotten thus far would indicate yes, we would go for a full harvest moratorium. Again, there are some caveats associated with that.

If I may expound on my answer to that a little bit, Mr. Chair. I just wanted to point out that today I'm not just speaking from myself on this issue. I'm representing the express wishes of our Department Secretary, John Hughes, who in turn has the concurrence, I'm told by Dr. Targan, who is the governor's appointee to this commission, that Secretary Hughes in turn has the backing of the governor on this issue.

I wanted to point out that the two-year harvest moratorium has the highest level of support within the government of the State of Delaware.

MR. PAUL DIODATI: He answered one of my questions, that both New Jersey and Delaware have the ability to be more conservative than this motion would allow, but I guess what's got my attention is that Pete, I believe you said that your internal discussions were not really driven by science or it wasn't a science-based decision, that you just simply went to the most risk-averse option, which is to put as many eggs as possible down in the feeding area.

I guess I have some real concerns about the commission developing that kind of a precedent by not taking the best available information and a science-based approach and simply jumping to the most risk averse. I certainly don't hold that back from any of our partners doing that internally, but I don't think the commission should.

In addition to giving fishermen an opportunity, within reason, to continue to work, I think that more importantly our decision process has to be broad and look at all the information and the information that I've seen does support this motion.

MR. ADLER: First of all, based on what I've listed to today, the moratorium versus the other option, 2, won't really make a difference to the red knot as far as the eggs. It wouldn't really be much of an effect.

We've also got that group of fishermen, the birds, the biomedical, the horseshoe crabs, and, as Jack said, they all need something and they've got to keep going and in, for instance, the moratorium mode, I don't believe helps out the fishermen at all and I've

just heard it really doesn't make much of a difference to the birds in what I've listened to.

I don't know where the biomedical is, but I certainly think that human health should have some hope here and the other thing is that I think that based on the fact that when we started this whole thing with the intention of helping out the red knot birds and making sure the horseshoe crab stocks are okay, we went from three million down to 732,000 for the sake of protecting the horseshoe crab and the bird.

I don't think that what we would supposedly save by going to a moratorium is going to make or break the red knot. If going down from where it was to where it is didn't bring them back, what we're going to save in horseshoe crabs, if any noticeable difference, isn't going to save that red knot bird. I prefer Option 1, but at this point in time I've listened to the amended motion and I probably would go with that.

MR. ERIC SMITH: I'm guessing, a wild guess, that a lot of us had a lot of guidance, as Roy described it, from other places in our department before we came down to this meeting. I know I did. This is obviously a huge and hot issue and it's not just marine fisheries. It's everything from -- Well, it's ecosystem management, when you get right down to it.

It's a lot of things in addition to fishery management. The guidance I got was use your own best judgment and try and make it science-based. If you have to do something, root your decision and your best decision to be made at the time and try and have the science as you see it fit the situation that you're confronted with.

That's my guidance. Gordon made a good point. In general, you always want to try and support the local stewards. Why wouldn't you? However, we can all think of examples of how local interest can get wound so tight that a broader coastwide perspective sometimes needs to be applied.

I won't mention examples. We can all think of our own. That's why the commission was formed, by the way, for us to come together in this kind of a group and make as reasonable and justified decisions as we can on the issues in front of us that are collectively good things to do and not locally, but locally and broadly.

I see the science this way, that either of these options will be a wash for horseshoe crabs or for red knots. There's pros and cons on all of it, but neither option

jumps out as wow, that's the silver bullet and the other one is just not as good. Nothing I heard today or that I've read in the various reports of the two different groups have convinced me otherwise.

To come full circle, I think the motion is a good idea. I think Jack Travelstead drilled it dead center, as he often does, that if the science doesn't really push you hard one way or the other and you can get about equivalent conservation value out of either alternative, why in the world would a fisheries commission not try and preserve a fishery that has value in the local and the regional areas and everything from economic significance to cultural significance.

That's what a marine fisheries commission also ought to do while it's trying to make sure that it serves the environmental purpose also and so I support the motion. Thank you.

MR. HIMCHAK: I have to address Paul's comments on the regulatory proposal not being based on science and that is blatantly incorrect. The shorebird data on birds gaining weight, arrival, and their departure weights from Delaware Bay are the driving force behind the regulatory proposal to justify the moratorium.

We went through this too in 2005 when we extended our closed season two weeks and believe me, the data requirements for the regulatory proposal were very, very necessary.

As to the most risk averse, again, we're making judgment calls here on will it get us to the same point on supplying shorebird needs. That's a subjective call. Our opinion is that we want to take the most risk-averse road on this. We're not leaving any latitude for not doing something that's within our power to do.

Option 2 here and, again, to come up with an arbitrary quota of 100,000 horseshoe crabs, we're getting into a guessing game, too. How does that translate insofar that we're cutting down from 150 to 100. We don't even harvest 100 horseshoe crabs within recent years, but will that get us to meeting the needs of the shorebirds? We don't think so.

We have to rely on the shorebird experts to give us guidance and that's where our department made the call and went to the Marine Fisheries Council to essentially make the tough call on a multispecies management approach. If you think that we can craft alternate motions here to get to the same point, based

on science, we'll be here forever demonstrating that.

MR. GIL POPE: I guess mine is a question on timing as to why the States of New Jersey and Delaware didn't do this earlier and do it entirely on their own. They have that option and why we're sitting here and all of a sudden the board has to make this decision for them. They have every right to do it on their own right now.

MR. HIMCHAK: To that point, New Jersey and Delaware has come to the commission and look at Addendum III and we recognize that the most current shorebird data -- The FMP of the ASMFC is unique in that it needs to address the shorebird needs, the horseshoe crab eggs for shorebirds.

We come to the ASMFC for Addendum III and we say the shorebird situation is not good and so we put in further restrictions on horseshoe crab management in New Jersey and Delaware and we give that a chance to work and last November we came back and said it's still not meeting Objective 2 of the FMP for the shorebirds.

You're right. We did get the support of the board insofar as crafting Addendum IV and the two motions for the two-year moratorium and we ran with it, because we think that it's really necessary, but we do need -- I'm particularly looking out for our marine fisheries council, because they represent commercial fishermen and recreational fishermen and the general public and they had one of the toughest decisions here as far as closing a fishery down for two years. In that light, I'm inclined to beg from the home rule support here for Delaware Bay and that's all I have to say.

MR. PLACE: The option of a moratorium is one of great specificity. It's not gray. It's black and it's white and so I want to look at the data that's being used to support a full moratorium and I want some degree of specificity from the data and what I see right now as far as departure weights of the birds is a minimum of a four-fold incongruity, orders of magnitude off.

I guess I would ask New Jersey which data were you using to support a moratorium, one that shows about a 14 percent of the departing red knots having achieved their weight or, as the Regional Director of the Fish and Wildlife says, one that says the majority of the birds have achieved their weights?

As far as the egg counts, I've been shown data with an enormous discrepancy and so that concerns me, to

be asked to vote on something with that degree of specificity and use data that -- Which is right? Did I spend all my time going over these and coming up with these incongruities to make a decision?

Do I pick the one that was just handed to us without a name and without source and without attribution or do I take the one that's signed by the Regional Director of the Fish and Wildlife? Which data did New Jersey use to support an option of this specificity?

MR. HIMCHAK: Yes, you cannot deal with this piecemeal and here's a dataset and here's a letter and this says this and this says that. We rely on the very organization that this board created to answer this question and that's the Shorebird Technical Committee.

In their collective wisdom -- Again, I don't endorse the distribution of data at this table or talking about what it reveals versus a letter that we don't have in front of us, but back in November of 2005 when we heard the most recent report of the Shorebird Technical Committee -- It's the full embodiment of their opinion that the red knot is headed to extinction within a certain timetable.

That is the impression and we rely on their judgment to essentially -- They can supply all the data on weight gains and number of aerial surveys and the wintering population. That's outside of my expertise and I admit it, but I have to rely on their judgment on this.

MR. PLACE: Is there anyone that's groundtruthing the veracity of their conclusions? We've heard a lot of very controversial requests and even allegations, I'll say, regarding, I might as well say it, scientific misconduct. Someone has given me data that's so far off from the other and both are being presented to me as fact and someone is not giving me the right facts.

We've had questions regarding the Shorebird Technical Committee and keep in mind we're not just parsing hairs here. The only hairs that are being split or words that are being parsed is the fact that Option 2 and Option 3 are virtually functional equivalents, with the currency involved being the amount of eggs on the beach for the red knot.

That's pretty close, yet the data discrepancies are enormous and so there's something that's not adding up and I would ask you again, were you using the Shorebird Technical Committee, the ones that we

were handed out here without attribution? I would like to know which of the factual datasets I've been given are the ones that are being used to rationalize this proposed action.

VICE CHAIRMAN BOYLES: Before you respond, I would like to kind of keep us on track and move us down the road if we can. Vince had a question he wanted to ask.

EXECUTIVE DIRECTOR VINCE O'SHEA: Before, the point was made that one of the state's, New Jersey's, annual harvest was less than 100,000 crabs per year and my question is if the board were to select this option, the substitute motion, would it require either one of these states to harvest 100,000 crabs per year?

VICE CHAIRMAN BOYLES: I'll ask the maker of the motion. Jack?

MR. TRAVELSTEAD: No quota forces any state to harvest it. You can always harvest less. In fact, most of us recently have harvested less than our quotas.

DR. GEIGER: As I read this, this is a -- When I look at these motions and I see Option 3, a full moratorium, I'm reminded that this is not a full moratorium coastwide. This is a moratorium that two states have chosen to adopt and certainly I fully respect and honor their ability as states to choose what they think is most appropriate based upon their best scientific information and other mitigating factors.

I would think that we all feel strongly about that and I think we all respect the rights and abilities of a state to do what they think is best, given a certain set of circumstances, and I think it's highly presumptuous of me or anybody else to impose your wishes on the wishes of the states who choose to be risk averse and to make those hard decisions.

That being said, certainly I honor Jack's substitute motion, because that is indeed what we always strive to find, a win/win for all users in a fair and equitable way. On the other hand, I'm also reminded that these states are stewards of additional resources and, again, what we are seeing is the vestiges of ecosystem approach that has become more and more prevalent with this commission and other management bodies around the country. I would urge you to honor the wishes of these two states. Thank you.

MR. MARK GIBSON: I've waited for

some time, because this is a tough one for me and I wanted to hear a fair amount of discussion. I think the substitute motion properly addresses the balance needed between needs of harvesters and the uncertainty in the science surrounding the red knots and I think it's an innovative way to balance that.

Having said that though, I'm also very sensitive to the request for support from the partner states and, as noted by earlier speakers, that has come before the commission before, requests for support from groups of states that had some primary resource responsibility and that support was forthcoming from the commission.

I'm also very sensitive to I think Eric referred to it as guidance that has come down from high levels of our respective state governments on what position to take here. I'm still a bit stuck, but I'm listening very closely. I don't know where my fellow commissioner will be, but both arguments are very persuasive at this time for me.

VICE CHAIRMAN BOYLES: I agree with that, Mark. Well said.

MR. MILLER: I'll be brief at this point. I just wanted to reiterate something that Pete touched on. I explained what the position was of our state administration in regard to this proposal.

What I didn't tell you is why and it's because we honestly feel that we're unable to do anything to benefit the red knot and other shorebirds when they leave and before they arrive at Delaware Bay and therefore, the Department Secretary searched his own conscience and came up with what could he do that is most risk averse, to use the same terminology that Pete used.

His decision in that regard was for the full harvest moratorium, in full recognition of the fact that this terribly inconveniences our fisheries that are affected by this proposal, but the wording he actually used is I do not want to have an animal go extinct on my watch and he was specifically referring to the red knot. That concerned him grievously, that an animal could be in danger of extinction while he was in office, and so I just wanted to share that.

MR. ERNEST BOWDEN: I want to give you a little perspective of what commercial fishermen see happening. In your charter, it says you're supposed to use the best science available. I cannot find nowhere in there that it says you should use whatever has the most political clout and that's what

we're seeing in a lot of this stuff, is positioning.

As Bill and Jack can both tell you, I take great pride in not being politically correct. I would much rather be righteous and what I say is true.

When you have an option that will not put commercial families that in some cases have been doing it for countless generations out of business and have the exact same effect on the resource, or so markedly less different that you wouldn't even be able to tell, as Mr. Millard has said, I don't know why you would even consider this.

Politics is supposed to be in Washington, D.C. and the capitals of each state and when it gets here, this is supposed to be science and when the scientist doesn't use science, he's not a scientist anymore. Thank you.

MR. AUGUSTINE: To that, I would say, amen, Ernie. I'm not a political animal either and it bothers me much to hear what we're expected to do when all of our decisions basically are on science and here we are and we've got an emotionally charged situation and how do you please everybody? As Ernie has described and around this table our technical committee has described and people have said here's where we are and here's what we have to do.

I understand where Pete is coming from in New Jersey. Item 2, the concern I have there, Option 2, 100,000 per state, what's the case of Delaware? You're already over 50,000 now and what's your possibility of going over by 100,000? I would say very well and so Option 2 is going to be a dead issue. What are you going to pay back? If you go on a moratorium next year and the following year, there's no payback and so the horseshoe crabs are gone anyway.

It just seems to me if you're at 150,000 now and I'm going to be on thin ice and, quite frankly, I don't care. I would suggest that we amend -- I would amend that to 150,000. I agree with the speakers around the table. It does not make sense to put people who are struggling to make a living out of business.

Unless you've been there, it's so easy to say yes, a moratorium, go out of business, and you go on the food line. It's simple to say that. There's nothing around this table that's been presented that says we have to do that.

I understand New Jersey's position and I understand

the shorebird position. I'm the guy who went through all the technical papers and research papers that Carolyn Kennedy sent us in September and I was told, boy, you've got a lot of time on your hands to do that, but it's an important issue.

The environment has changed. The temperature has changed, the water has changed, flight patterns have changed, where they nest along the way changed. It's a global problem. It's not only an ASMFC problem and it's not only a four-state problem. I agree with Dr. Geiger.

We're reaching toward ecosystem management. We're not there at ASMFC. We're still talking about it and so to overlay that and say we've got to do all this protection because it's important from an ecosystem management point of view, it doesn't solve our problem here.

Ernie Bowden speaks from experience. He knows when we took care of the intercept survey out of Delaware, where did Ernie go? Besides having a heart attack and some other problems, he basically went belly up and he's still on our advisory panels and he just gave you good advice.

We have options that tell us we can do this or that. By the same token, what is going to be the economic impact on those folks who have spoken today that you're going to put out of business if you decide to go full moratorium at this particular juncture. First, I would like to amend the motion if I may, Mr. Chairman.

VICE CHAIRMAN BOYLES: Do you want to read it?

MR. AUGUSTINE: **A substitute motion to adopt Option 2, a partial moratorium, for New Jersey and Delaware.**

VICE CHAIRMAN BOYLES: I've got a motion. Do I have a second? Dennis seconds.

REP. ABBOTT: It's surely been an interesting afternoon. Let me first state that I am a politician and I'm the only elected one here in the room, I believe. As a result of ten years in the legislature, I've surely listened to a lot of hearings and a lot of testimony and today was very interesting and I've tried to listen to both sides.

As Mr. Gibson talked about, it's an interesting debate. I think that when I come to the table I'm always interested in basing our decisions on the

science and from New Hampshire, I don't believe that we came here with any instructions from state officials to take any position pro or con and so we, like Eric, are going to vote our best conscience, whatever that will be.

I looked at the first two motions and I summarized them by feeling that the first motion for a moratorium would be an emotional decision and the second one would be more of an intellectual decision based on facts.

We also received input from -- Brad Spear relayed the information from thousands of people from the Audubon Society, of which I am a member also, but hearing all of that, one of the most compelling things today was the fisherman from Delaware who so well put the plight of the commercial fishermen.

It's my opinion that when the day is over that we have to be guided by the science that was presented to us and by the technical report that told us that horseshoe crabs are trending up. I think the shorebird information, in my opinion, wasn't conclusive, as I asked questions about all the effects and what effects would be made and understanding, again, that the states can be more conservative, it's my opinion that Option 2 really is the way for us to go today, Mr. Chairman.

VICE CHAIRMAN BOYLES: We have been discussing this for the better part of fifty minutes. I've got Pete, Vito, Jack, John Duren, and John Nelson lined up to speak.

EXECUTIVE DIRECTOR O'SHEA: I have maybe a suggestion here, Mr. Chairman. You have a motion to amend on the screen right now. One strategy may be to limit discussion and deal with amending the substitute motion. That may be one strategy for you to consider.

VICE CHAIRMAN BOYLES: Let me see hands of folks who want to speak to the substituted substitute motion, the amendment to the substitute motion.

MR. TRAVELSTEAD: I did want to speak to particularly Pat Augustine's comments and he was the one who offered the motion to amend the substitute and to let you know why I offered the second part of my motion to reduce the quotas to 100,000 per state.

I recognize that New Jersey has not harvested that amount in recent years, but certainly Delaware has. It

was merely an offer of a compromise. It was, if you will, an olive branch to the State of Delaware to say we are with you in this and we think the resource needs to be protected.

We can't go fully to a moratorium with you, but we recognize that something needs to be done and we have a history of ratcheting down the quotas in this fishery previously and it just seemed to me to be the next logical step in that ratcheting down of the fishery to an acceptable level, that fishermen can still continue to fish, but in the end the resource will be protected.

MR. SMITH: Those are good points made and I won't belabor the issue. I oppose the motion to amend the substitute motion, simply because I think the intent on lowering the quota was a real contribution to try and provide conservation through the plan provisions and not have to go to that full, most onerous alternative, the first motion. I oppose this motion to amend the substitute motion.

VICE CHAIRMAN BOYLES: Pat, do you want to respond to that?

MR. AUGUSTINE: May I, please? I appreciate Mr. Travelstead's comments, followed by Eric's, and now that I understand why he went for that compromise, I don't have a problem with it. My big concern was that Delaware at this juncture has still got a relatively aggressive season.

I think you've got what, a month-and-a-half left in their season? Is it likely that they can harvest another 50,000 or 100,000 crabs? My concern was that they don't go over the 100,000. If they go over the 100,000, they're over the quota and what kind of a dilemma does that put them in or the commission in relative to the 100,000? That was why I suggested the 150,000.

Maybe the question should have been to Delaware. Do they anticipate -- Even if they try to squeeze down or ratchet down their numbers, will they surpass 100,000 this year? I would rather not put them in that awkward position.

MR. JOHN NELSON: I have not spoken on this before and I appreciate the opportunity to speak at least once on it. I would recommend that the motion be withdrawn. The motioner has already indicated he is willing to do it and so I guess it's the seconder then you just need to check on.

VICE CHAIRMAN BOYLES: Dennis?

REP. ABBOTT: Absolutely.

MR. NELSON: I reserve my right to speak on the substance at a future date.

VICE CHAIRMAN BOYLES: **The motion to amend has been withdrawn.** We're back to the original. I've got Pete, Vito, Jack, John Duren, and John Nelson. May I suggest that we -- Let's segregate this into folks who want to speak in support of the substitute motion and those who want to speak against it. Those who wish to speak for, let me see your hands please: John Duren and Vito. Am I to presume then that Pete, Jack, and John Nelson will speak against?

MR. TRAVELSTEAD: I've said everything I need to say.

MR. NELSON: I'm withdrawing mine, Mr. Chairman.

MR. HIMCHAK: I have one last comment here and I'm very troubled with the perception here that I keep hearing we have to be guided by the science, we have to be guided by the science. The Shorebird Technical Committee and the shorebird experts have told us that even a harvest of 80,000 horseshoe crabs in New Jersey is too much and the shorebird needs are not being met.

I would like to know where is the science that shows that this substitute motion will produce the same number of horseshoe crab eggs on Delaware Bay beaches for the shorebirds? I have not seen any science from the Horseshoe Crab Technical Committee.

I have seen a matrix today that shows judgment calls on very small, very small. I have not seen any scientific analysis that says that an alternate motion will keep the fishery open and still satisfy the needs of the shorebirds.

MR. CALOMO: Again, I appreciate the opportunity to speak. I've got a little bit of a trouble with one statement and it's the Marine Fisheries Commission, Peter, that voted against -- Why I have trouble is I'm the Chairman of the Marine Fisheries Commission of the Commonwealth of Massachusetts and it's troublesome to me to say that on my watch as the Atlantic States Marine Fisheries Commission on my watch I don't want to see the extinction of the fishermen and that's what is troublesome.

To me, an olive branch, as so stated, is given here. Again, I'm stuck on this balance. I don't want to see fishermen go out of business and it's happening and I think there's something here that says we are the Marine Fisheries Commission. We're called the Atlantic States Marine Fisheries Commission and I therefore urge my fellow commissioners to support the olive branch with this substitute motion. Thank you, Mr. Chairman.

VICE CHAIRMAN BOYLES: Anybody that wishes to speak against the substitute motion or for?

MR. COLVIN: Just briefly, Mr. Chairman. I kind of agree with Pete Himchak's observation that it seems to me that the tenor of this discussion is suggesting that the substitute motion is somehow better grounded in science than the original motion to adopt Option 3.

I disagree. I think it's a matter of judgment. I think it's a matter of judgment that board members are making with respect to the scientific information and advice that they've received, rather than some clear distinction between what the science is telling us.

In all cases, the science is clearly telling us that there's no definitive black and white guidance here and I can't help but sit here, as I listen to this discussion, and think about the debate that's about to happen in Congress over the issue of separating science and allocation in the management of marine fisheries.

I hope that some of experience today can be shared with our colleagues up on the Hill when they get into that discussion and they will see how indistinct and impossible it is to make those sorts of separations.

I continue to feel at the end of the day that I need to respect the advice and the decisions that taken place all the way to the executive chambers of two of our member states on a fishery that takes place in their waters.

I try to place myself as I sit here in the position of the representatives of the governments of those states and ask myself what would I be saying if I were in their shoes and I think that I would be concerned that so many of my partners here around this table are coming to a judgment that is not -- It just is not in sync with that which I am urging them to make with respect to this situation.

I am clearly concerned about the message that goes to

the folks in Delaware and New Jersey if the rest of us collectively override their judgment in this matter.

MR. JOHN DUREN: It seems to me that all the technical information we've been able to read for now months and have heard today suggests that the red knot won't know the difference whether we take a full moratorium or a partial moratorium. It doesn't appear that it's going to influence how many eggs are on the beaches and available for the birds.

That suggests, from a resource management point of view, that Option 2 is a lot more practical than Option 1. More than once in the last year or so we have considered issues that basically represented a situation where the commission was called upon to support either politically or from a public point of view support actions that a region or a state wanted to take and that's what we're looking at today.

Do we want to politically support an action that two of our states may want to take when the best judgment from a fishery and a bird point of view would be that a less strict measure might be satisfactory?

My point of view on those political support positions is that it's probably good for us to be supportive of the member organizations in the commission when we can and that doesn't cause us to make an improper decision for the resource, but in this case, the right decision for the resource would be Option 2, in my opinion, and if any state wants to have a stricter regulation than what Option 2 calls for, that's perfectly within the purview of that member state and so I'm very much in support of Option 2.

VICE CHAIRMAN BOYLES: Does anyone wish to speak against the substitute motion?

MR. HOWARD KING: I haven't said much, because Maryland is a state outside this motion. We're really flying by the seat of our pants here, because the instrumentation just isn't working to tell us where we need to go. It seems to me that the Horseshoe Crab Technical Committee did support the moratorium. Can you confirm that?

MR. MILLARD: The Technical Committee did not arrive at any particular support for any particular option. We merely commented on each option.

MR. KING: The part of the substitute motion that I don't particularly care for is the 100,000 per state. Pete and others will go back to

New Jersey and it will appear to their state government as though 100,000 is the appropriate number to reach.

I suppose that eliminating any particular number would be too fluid for the board to accept, but if the intention was for those states to reduce their harvest quota, presumably to protect horseshoe crabs on the beaches, I wonder if those states, Pete or Roy, might come up with a different number or different wording that might be more acceptable to them.

VICE CHAIRMAN BOYLES: Pete, do you or Roy want to respond to that?

MR. HIMCHAK: Our department, in assessing further restrictions of the fishery, again took the most risk-averse approach. There are a lot of judgment calls in this and if the shorebird experts convince us that the data require a moratorium, that's why we went with it.

MR. POPE: At the end of the day, if the substitute motion gets passed, I see the states of both New Jersey and Delaware can go home and either adopt the substitute motion or they can also go to a full moratorium.

By adopting the substitute motion, that gives them even more of a choice. They've already said they don't want it and so let them go ahead and do the full moratorium if they want to, but I think that just to keep the option open, in my mind, is something that - It goes farther.

A full moratorium will not only involve just the states of New Jersey and Delaware, but it's like a snowball rolling and that's the thing that I don't want to see get going here, is that I don't want to see it affecting any of the other states in a negative way or interfering in how the other states do their business. That's why I think the substitute motion is the wise way to go.

MR. DIODATI: This is becoming one of the most puzzling debates that I've had in the commission. I'm getting to the point where I now recognize I should have asked the commission to place a moratorium on the Commonwealth's dogfish fishery. With that, I would like to call the question, Mr. Chairman.

VICE CHAIRMAN BOYLES: The question has been called, but we've got a number of folks in the audience that I know would like to speak to this. It's late in the day.

Can I see a number of hands of people that want to speak? Okay. How many want to speak for the substitute motion? Four for the substitute motion. How many wish to speak against the substitute motion? Four. Let's start with those who wish to speak for the substitute motion.

I would like for you all to limit your comments to two minutes, please. I would also like to reiterate this is a public comment session to the management board and if we could refrain from asking questions or directing questions to specific members of the board, that will get us well on our way to where we need to go. Who wishes to speak for?

MR. RICK ROBBINS: Rick Robbins with Chesapeake Bay Packing. I support the goal of improving forage conditions for the red knot in Delaware Bay and there's more than one way to accomplish this management objective.

The key question today before this board is can the board increase egg availability for shorebirds while allowing for limited continued use of the resource and it can. Consider the two strategies.

First of all, the delayed male-only solution is an obvious solution. It represents a risk-averse and balanced approach to the problem. Dr. Carl Shuster has endorsed it as a perfect interim management strategy.

Consider the two strategies side-by-side. A full moratorium next to a male-only harvest in the first year will result in the same exact preservation of the resource though the bird feeding season, through the mating season.

You would have the same exact increase in female escapement, you would have the same exact increase in egg production under both strategies. The only difference is after the birds have left Delaware Bay you would harvest approximately 1 percent of the male population of horseshoe crabs. It's extremely risk averse and it would result in the same increase in egg production.

When the Horseshoe Crab Technical Committee evaluated these options, they concluded that the increases in egg production would be small, but basically the same between the two options. The reason is female escapement from harvest is going to be what drives the increase in egg production and you're perfectly protecting females throughout that two-year period under the male-only scenario.

It's a question of standards at this point. I appreciate the fact that the commission wants to show political support for these two states. However, the fact that an individual member state may want to do something that's inconstant with the goals of the plan doesn't foreclose this board from considering the goals of the plan or the ASMFC's FMP standards.

I would submit that this is the option that's consistent with the standards, consistent with the goals of the FMP, and then those individual states are free to either adopt it or be more conservative, but I believe that for this board institutionally this is the right answer. It's good for crabs, it's good for shorebirds, and it's good for the fisheries. I believe it represents a balanced solution and I think it's the right answer today. Thank you.

VICE CHAIRMAN BOYLES: Do I have a hand of which to speak against the substitute motion?

MR. WILLIAM COOK: My name is William Cook and I'm a farmer out of Central New York and I represent the interests of the Citizens Campaign for the Environment today. I appreciate the opportunity to speak and yes, I will be brief.

I've listened to the discussion today rather intently. My organization's position is clear and you've heard from us. The thing that strikes me as surprising is that both of your technical committees have said a moratorium is the most risk averse.

Yet, there's discussion about doing something other than that. The thing that surprises me is the record is clear. You can say the number of red knots is crashing, is in steep decline, is really troubled, but at the end of the day what happens today will probably determine whether or not that bird goes extinct.

I understand the interests of the watermen who harvest these crabs. I'm a farmer and there's a lot of people trying to put us out of business too, but what you're talking about is a bird going extinct. What you're talking about is taking reasonable action to give it a chance.

Yes, there's a lot of issues related to the bird, erosion, overwintering, people with guns. This is something you can do something about that will be significant. To say let's compromise and we'll only harvest maybe 100,000 each state, that's not the most risk averse and it does not give this bird any chance and to me, that's the equivalent of doing nothing.

New Jersey and Delaware have stuck their neck out

and have decided to do what is right for the resource, for the birds, and they are not even getting your support? To me, it's a real simple thing. In a few weeks, I'll take my children down to the shore in hopes of having them see a red knot.

What you people do today will determine whether or not their children will have that same chance. I applaud New Jersey's efforts and Delaware's efforts and I applaud some of the comments coming from New York State's representatives. I ask that you give those children yet unborn the chance to see this bird. I ask that you take a reasonable, risk-averse step and I thank you for your time.

VICE CHAIRMAN BOYLES: Thank you, Mr. Cook. Who would like to speak for the substitute motion?

MR. AUMAN: I'm Charles Auman and I'm a commercial fisherman from Delaware. I would like to thank this commission for giving me another opportunity to speak. There's a couple of comments that I would like to make. I also am appointed by the governor of our state and I sit on our Shellfish Commission for seven years.

Our Shellfish Commission unanimously voted for this male-only harvest in our state. That was something that wasn't brought up. Our own scientists sit right here in this state and do not agree with a total moratorium on this and they'll tell you and have told us in meetings that that will not solve the problem.

I just wanted to clear up a couple of things and I thank everybody for listening to the science and let it work for itself and don't let a politically motivated state from the top of John Hughes order something down who won't even use his own scientists which the state pays or his own appointed elected officials or elected people from the fishermen, community, recreational. On his own appointed board, he completely ignores what they say.

As a fisherman, I thank you for just listening and using everything, but I wanted to clear up that Delaware is not all for this total moratorium. A lot of stuff hasn't been said. You don't see our scientists here speaking up and you also haven't heard that our shellfish committee unanimously voted for this male-only harvest. Thank you.

VICE CHAIRMAN BOYLES: Thank you, Mr. Auman. Is there someone who wishes to speak against the substitute motion?

MR. ERIC STILES: My name is Eric Stiles and I'm with New Jersey Audubon Society. When you're talking about cultural heritage, I grew up in southern New Jersey and I actually went birding with my folks on the Delaware Bay. Part of my cultural heritage was in 1982 -- I didn't know New Jersey Audubon was counting shorebirds at the time, but upwards of one-and-a-half-million individuals.

My cultural heritage was seeing the horseshoe crabs so deep it was up to my knees. It was a land of overabundance. That's what created this. It's the overabundance of crabs that are laying these eggs and the eggs are coming to the surface and the shorebirds are snarfing them down, if will, feasting on these Big Macs.

As we looking at the action before us today, let's recognize there is a number of cultural heritages at stake and folks are equally proud of that cultural heritage. It's something that I am unwilling to forget about and I am committed to making sure it is there for future generations.

What I've learned today is that risk averse is like beauty. Apparently it's in the eye of the beholder. I understand there's a number of interests at stake here and it's a very complex issue, but what we heard today was very clear and compelling.

The Horseshoe Crab Technical Committee said based upon their science and the review of the addendum options the most risk-averse option for the survivorship of the shorebird was a moratorium.

What we heard from the shorebird experts, including folks from out of the country that came to participate, was the most risk-averse option for the survivorship of the red knot is a moratorium. What we heard from the Law Enforcement Committee is the most enforceable option is a moratorium.

What is absolutely clear is the science of the extinction. No one disagrees the imminent risk of extinction of the red knot. No one disagrees that the cause of this is the over harvest of crabs, leading to the current depletion of the eggs. I urge you, from the risk-averse strategy ecologically, when you have broad mandates you have to go to the lowest common denominator.

No one is saying that the horseshoe crab population is about to disappear. The action before you -- We applaud New Jersey and Delaware for sticking to the science. I think Mr. Himchak has made infinitely

clear the amount of deliberations behind New Jersey's actions.

We have sent every member of this committee a pile of literature three to four inches high on the science and I want to stress that we urge this committee to do the right thing and support the states of New Jersey and Delaware for my daughter and hopefully her children. Thank you.

VICE CHAIRMAN BOYLES: Thank you, Mr. Stiles. We'll hear from someone who wishes to speak for the substitute motion.

MR. DAVID FRULLA: Thank you, Mr. Chairman. I'm David Frulla from Kelley Drye Collier Shannon. I'm here representing Chesapeake Bay Packing. We've submitted detailed comments that weren't reflected in any of the discussions and so I'll try to be brief here with the two minutes.

A closure is always, always the most risk-averse option, but being the most risk averse isn't necessarily what fisheries management is about. This board and this management structure, this interstate management structure, requires some analytical rigor.

Just going right to the most risk averse doesn't look at the analytical rigor. You have the Horseshoe Crab Technical Team saying that the science doesn't show a correlation between a moratorium and any greater protection than you would get from the substitute motion.

The bird committee says there's some potential that Option 2 might be different and there's some potential that it might downward and that's not a lot of science. It's not a lot to hang your hat on. An undetectable benefit is what the Horseshoe Crab Technical Committee talked about.

Again, the states came together in a solemn compact and what Mr. Travelstead has explained is that the decisions here don't just have impacts on Delaware and New Jersey. They have impacts on other states with whelk fisheries, with eel fisheries. Those need to be considered when you come together.

You need to look at the science and you need to look at the balance that's in the law, that's in your charter, that's in the fisheries management plan itself. When you do that, we submit that the only option that makes sense from all those perspectives -- It's not a matter just of balancing, but it's a matter of where you go when you look at this rigorously is to Option 2.

VICE CHAIRMAN BOYLES: Thank you, Mr. Frulla. Is there someone who wishes to speak against the substitute motion?

MR. HUMPHREY SITTERS: I am Humphrey Sitters and I am English. I'm a shorebird biologist and one of the group who have been working on the red knots in the western hemisphere for the last ten years.

Last November, the group of us, international and American shorebird ecologists, wrote a letter to the commission, which I won't go into detail in, but it did say already we've seen clear evidence that insufficiency of eggs is jeopardizing the birds ability to gain adequate resources for their onward flight and underpin successful breeding.

In view of the delayed maturity in horseshoe crabs, it is likely to take some years for their population to recover, even if there is a complete cessation of exploitation. In light of the above, it is our view that it is appropriate for the ASMFC to exercise extreme caution in permitting any further exploitation in order to minimize the risk of the red knot becoming extinct.

Since then, there have been a few developments and as a result of that, the same group has written another letter to the commission on the 17th of April this year and I would like to make this available and I've got copies here for everybody here, which brings the situation, from our point of view, up to date.

In this, we said that since November there have been two developments. Firstly, a count of the red knot population that winters in Tierra del Fuego was conducted in January of 2006 and this showed a total of 17,211, compared with 17,653 twelve months earlier.

Clearly, this indicates no significant change. However, it provides corroboration, if any were needed, of the magnitude of the fall in the population from 31,500 in 2004. Therefore, the possibility that a large number of birds were simply missed in 2005 can be discounted.

In February of 2006, two reports were made available on the state of the horseshoe crab population and these, in essence, indicate that there had been no major change in the size of the horseshoe crab population between 2004 and 2005. We continue in this letter and say that --

VICE CHAIRMAN BOYLES: Mr. Sitters,

would it help if staff distributed that, because you're out of your two-and-a-half minutes.

MR. SITTERS: If all members have seen it, that's fine.

VICE CHAIRMAN BOYLES: Yes, they have seen it, but we can make it available to those who may have not.

MR. SITTERS: Essentially we confirm that what we said back in November still applies.

VICE CHAIRMAN BOYLES: Thank you, Mr. Sitters. Is there someone who wishes to speak for the substitute motion?

MR. LITCHKO: My name is Mike Litchko, horseshoe crab representative. I would like to say that the information that Mr. Himchak has provided to you certainly was peer reviewed by the Shorebird Technical Committee and the population estimates of New Jersey were not useful for population assessments.

The weight gain studies that New Jersey used were inherently flawed. They overestimated and underestimated the weight gain studies and this was on the May 8th peer review conclusions and recommendations. The extinction of the red knot -- They did not conclude that that extinction was even possible, because of the demographic values that weren't included in it, and it's still on for right now. It's not done.

Also what Mr. Himchak hasn't touched on, and maybe some of the other people, is the fact that the egg density data that was used for New Jersey on all of New Jersey's beaches were skewed. All that data was skewed. Mr. Millard and Mr. Smith had corrected that data. That data was that the people that were doing the studies in New Jersey, some of the biologists, some of the people there, skewed that data from 200 meters, what they said the beaches were, and the corrected data was to 100 meters.

There is some seriousness in New Jersey's science that needs to be addressed seriously and that's one of the main issues here of research misconduct.

When Mr. Sitters was talking about Tierra del Fuego, let me remind you that in the early 1980s that that was 8,600 kilometers of area that was surveyed and they reduced that down to less than a hundred kilometers of area surveyed and so it's how you selectively interpret that information in a decline, but

if you really look at the information and the data, which is quite readily available if you're looking for it, it wouldn't be hard to see the exact what they have done here to show these declines.

You'll see in that Tierra del Fuego report why was 2001's population omitted? That population was assessed in the Canadian Wildlife 104 report at 79,900. New Jersey only included 29,000 birds in there and then decided that since they omitted the other 50,000 that they can't even use that information in 2001.

You want to talk about some research misconduct of the science that New Jersey has used, you're going to have plenty of information there to review to take a look at what they have done, these researchers. Mind you that the Berkson survey of the horseshoe crab data was flawed by a factor of three. That's a substantial difference in what the population was and what it is now. Thank you.

VICE CHAIRMAN BOYLES: Thank you, Mr. Litchko. Does anyone wish to speak against the motion?

MR. PERRY PLUMART: My name is Perry Plumart from the American Bird Conservancy. There's been some tough decisions that have already been made before here today. They were made by the states of Delaware and New Jersey and I think they based those tough decisions on science, economics, and concern for the watermen.

They've taken these things into consideration and I think it would be important for the Atlantic States Marine Fisheries Commission to follow the leadership of these two states who have made a very tough decision here today at the highest levels of government.

What we do know is that the horseshoe crab has already been, according to Virginia Tech, that 60 to 80 percent of the biomass has already been fished out. What tracks that fishing out is the decline of the migratory shorebirds and the red knot tracks the overfishing of the horseshoe crab and we're talking about science.

What the Horseshoe Crab Technical Committee presentation today did not represent well was the mark-recapture study is very controversial. In fact, in 2003, 17,000 crabs were tagged, yet only forty-eight were recovered. In fact, in the Horseshoe Crab Technical Committee meeting, it was suggested that that perhaps should be thrown out, because it was

such a low recapture rate that you could be inflating the population estimates.

Also, at the Shorebird Technical Committee they suggested that this was not a good basis on which to base management decisions and so I think that actually the numbers that are in the Horseshoe Crab Technical Committee report are based on a potentially flawed study.

I would look at the science of the male-only take. There is none. This idea is less than six months old. Nobody has studied it and what you're doing embarking on this is a huge experiment that doesn't reflect the science of the shorebirds.

I would also point out that when you review the horseshoe crab literature and also when you review the reality on the beach, that what you're seeing is that satellite males are not superfluous and they're not excess. They are part of the ecology of the horseshoe crab itself and that we do not know -- Again, it's embarking on an experiment to try to figure out what this is.

When shorebird scientists have gone to the ends of the Earth and they've looked at what's changed in the entire flyway of the red knot and the other migratory shorebirds, they're finding one thing has happened, that the horseshoe crab eggs in Delaware Bay are missing. The birdfeeder is empty. There's a crisis in Delaware Bay, Mr. Chairman and members of the board.

The science is clear and compelling on both the horseshoe crabs and the red knot and I urge you to make a science-based decision today. We need to act now to implement a moratorium on the take of horseshoe crabs in Delaware Bay and not engage in a risky experiment. Thank you.

VICE CHAIRMAN BOYLES: Thank you, Mr. Plumart. May I ask the members of the management board if it's their desire -- Is there anybody's mind that is going to be changed by further public comment? The question has been called then on the substitute motion. We'll take two minutes to caucus.

(Whereupon, a caucus was held.)

VICE CHAIRMAN BOYLES: Everybody take their seats, please, and quiet down. The motion has been called. **The motion is move to a substitute motion to adopt Option 2 (partial moratorium) for New Jersey and Delaware and reduce the annual**

horseshoe crab harvest quota to 100,000 per state. That motion was made by Jack Travelstead and seconded by Mr. Calomo.

All those in favor of the motion signify by raising your hand; all those opposed signify by raising your right hand; abstentions; null votes. The motion carries. The substitute motion becomes the main motion. The vote was twelve in favor and four opposed.

Now the substitute motion becomes the main motion. **All those in favor of Option 2 (a partial moratorium) for New Jersey and Delaware with a reduction in the annual horseshoe crab harvest quota to 100,000 per state, all those in favor raise your right hand; all those opposed same sign; abstentions; null votes. The motion carries thirteen to three.** The next item, moving right along, is a discussion of the Maryland/Virginia component for the bait fishery.

MR. TRAVELSTEAD: **To help move this along, I would like to move adoption of Option 4, multiple measure approach, for Virginia only.**

VICE CHAIRMAN BOYLES: I have a motion by Jack Travelstead and a second by Dennis Abbott.

MR. TRAVELSTEAD: Again, I offer the motion with the idea that Virginia does believe that we have a problem that needs to be addressed and that Virginians are willing to do their fair share of trying to solve the problem.

The tagging data that exists show that about one-and-a-half percent of the tag returns are beyond a hundred kilometers from Delaware Bay and so some of those show up in Virginia waters, particularly in ocean waters.

It seems to us if we can start to limit our harvest of horseshoe crabs out in the ocean that have a higher chance of being of Delaware Bay origin then we're doing something to help. Obviously if there are crabs inside of Chesapeake Bay, the chance that they end in Delaware Bay to spawn is remote and so we can continue to have a good fishery there.

This measure is not without some opposition back home, but it was a series of measures that we tried to work out with our industry and I believe the Marine Resources Commission in Virginia will adopt these measures if this motion passes.

In fact, I think we can have this measure in place relatively quickly so that it will take effect within the next couple of months and begin to rearrange our fishery from one that right now potentially could land a very large volume of crabs from the ocean that are of Delaware Bay origin and redirect our fishery back into the Chesapeake Bay.

MR. NELSON: Mr. Chairman, I appreciate Jack putting that forward for Virginia. I think that this is for Maryland and Virginia and it would seem as if we wanted to wait to deal with Maryland that would be fine or do you want to try to do both at once?

VICE CHAIRMAN BOYLES: Jack, you were the maker of the motion and do you have any comments?

MR. TRAVELSTEAD: I was going to leave it to Maryland to put their own motion up. I don't really know what they have in mind. I know what Virginia would like and that's why I presented the option for us.

MR. KING: **Obviously Maryland can't be part of a Virginia-only option and so we're proposing Option 2 for Maryland and so I don't know how you want to deal with this.**

VICE CHAIRMAN BOYLES: Could we do that in two separate motions then? Is that the pleasure of the board? Can we have discussion then - - Is there any further discussion on the motion made by Jack Travelstead and seconded by Rep. Abbott? Is there any other discussion? Does anyone in the public wish to comment on the motion?

MR. ROBBINS: I would just ask the maker of the motion if this is going to be permanent or for a two-year period, as per these other regulations, and then I would just point out that this is based on the best available information we have on tag returns, which indicate that movements of horseshoe crabs out of the Delaware Bay are fairly localized.

Over 98 percent were recaptured within a hundred kilometers and so this is a risk management approach based on the best available information and I think it makes good sense for the Commonwealth and it should help reduce Virginia's interaction with Delaware Bay origin crabs. Thank you.

MR. TRAVELSTEAD: Mr. Chairman, with your indulgence, I should have mentioned when I said that this option was not wholly supported back

home -- **I failed to make it a part of the motion, but I would like to now, to make this effective for a two-year period, much like the prior motions that were adopted were for two years, to make it consistent with all the other measures in the plan.**

VICE CHAIRMAN BOYLES: I would imagine it's a friendly amendment, Jack. REP. ABBOTT, is it? Okay. Then we will make that effective for a two-year period. Any other public comment? The question has been called. **All those in favor of the motion signify by raising your right hand; all those opposed; abstentions; null votes. The motion carries.**

MR. NELSON: I would second Mr. King's motion.

VICE CHAIRMAN BOYLES: We've got a motion to adopt Option 2 for Maryland. It was made by Mr. King and seconded by Mr. Nelson. Is there any discussion?

MR. COLVIN: Just to clarify, Mr. Chairman, I presume that this motion is for Option 2 with the words "and Virginia" deleted, for the record.

VICE CHAIRMAN BOYLES: Thank you for that, Gordon. That is with the words "and Virginia" deleted. That's correct. Any other discussion? Is it the same thing, an option for two-years?

MR. KING: Yes, the option itself states two years.

VICE CHAIRMAN BOYLES: Any further discussion? Is there any public comment? The wording should be Option 2, for two years. **All those in favor of the motion signify by raising your right hand; opposed same sign; abstentions; null votes. The motion carries.**

REP. ABBOTT: **I would like to make a motion for the biomedical restrictions to adopt Option 1, maintaining the exemption. The harvest and landing of horseshoe crabs for biomedical use are not subject to the restrictions placed on the harvest and landing of crabs for bait use.**

VICE CHAIRMAN BOYLES: Motion by Rep. Abbott and second by Mr. Calomo. Is there any discussion?

MR. HIMCHAK: I just one have one comment and it's in support of this motion. Previously today we

voted unanimously to approve the review of the FMP, wherein it contains that the Technical Committee and the Plan Review Team do not support any further restrictions on the biomedical at this time.

VICE CHAIRMAN BOYLES: Any further discussion? Any public comment?

MR. AUGUSTINE: Mr. Chairman, we also need to do this for two years, in view of the fact that it will be consistent with all the others.

VICE CHAIRMAN BOYLES: I think, Pat, that status quo is status quo. I think the board is free to revisit this according to need.

MR. AUGUSTINE: Call the question.

VICE CHAIRMAN BOYLES: The question has been called.

MR. SMITH: As a point of order, do you have a second for that motion?

VICE CHAIRMAN BOYLES: It was Mr. Calomo. **All those in favor of the motion signify by raising your right hand; opposed same sign; abstentions; null votes. The motion carries.** We've made four separate motions for Addendum IV. I'll entertain a motion to adopt these motions as part of Addendum IV.

MR. ADLER: **So moved.**

VICE CHAIRMAN BOYLES: Motion by Mr. Adler and seconded by Mr. Nelson. Any discussion? **All those in favor signify by raising your right hand; opposed same sign; abstentions; null votes. The motion carries.** I've been told we need to select an implementation date, by which time Addendum IV will go into effect.

MR. HIMCHAK: Mr. Chairman, I believe it's stated in the addendum as July 1, 2006, on page 8.

MR. MILLER: Mr. Chairman, we cannot meet a July 1, 2006 implementation date. Our administrative procedure process is approximately a four-month process.

MS. SUSAN SHIPMAN: **I would move an October 1 implementation date of 2006.**

VICE CHAIRMAN BOYLES: I have a motion by Ms. Shipman and second by Mr. Calomo.

Any discussion? **All those in favor of the motion say aye; opposed. The motion carries.** That concludes our business, I believe, with -- Do you have something on Addendum IV?

MR. MILLER: Robert, there were some additions to the agenda and you may want to give the people that brought them up the opportunity to speak to that?

VICE CHAIRMAN BOYLES: Yes, I want to do that, but is there anything else on Addendum IV?

DR. GEIGER: I noticed that the PRT and both the technical committees made several recommendations and are those recommendations going to be wrapped up and included into Addendum IV?

MR. SPEAR: Jamie, those will be addressed separately from Addendum IV. They were not included in the document that went out for public comment, but they will be addressed by the individual committees that the recommendations were made to.

MR. SMITH: I'm not sure this is related to Addendum IV or not. It was all embedded in the debate. There were a series of, and this may be what Brad and Jamie are referring to, things like a recommendation for the surveys to continue and be funded. Is there any weight to the board endorsing those things? Do we have to do it by a motion? It clearly isn't Addendum IV and I guess it's not the management plan, but I wouldn't want to lose sight of those things either.

MR. SPEAR: By the board's acceptance of the FMP Review, the Plan Review Team has gotten the endorsement from the board. At this time, there's no specific requests for endorsement of these particular recommendations or no specific actions that the board has been requested to make and so until that time, the Plan Review Team and the appropriate committees will deal with them.

OTHER BUSINESS

MR. HIMCHAK: I have one quick question that may need the endorsement of the board. The need for the stock assessment subcommittees to meet this year was brought up and I think it's crucial to the management process and there was mention in there about lack of funding to pull this off and do we need a recommendation of the board to try and come up

with some money to make this happen?

EXECUTIVE DIRECTOR O'SHEA: Just give me a second to collect my thoughts, Mr. Chairman, and then I'll respond.

VICE CHAIRMAN BOYLES: Pete, I know you had requested some other business as well. Is there anything else on Addendum IV?

MR. MILLER: I wanted to address the comment that Pete made about lack of funding for joint meetings. Delaware put up its interjurisdictional money for the purposes of furthering the cause for horseshoe crab and I believe that total was \$14,000, in that neighborhood. Perhaps that money could be used by the commission to fund the necessary meetings.

VICE CHAIRMAN BOYLES: Other business?

MR. HIMCHAK: I just wanted to come back to the remark I made at the start of the meeting, some time ago, about the potential aquaculture project that was briefly touched on by members of the public and when we have some kind of a proposal, we will make it readily available to the Technical Committee and request some kind of comment before this process begins. Thank you.

VICE CHAIRMAN BOYLES: That's great, Pete. Thank you for that. Any other business?

MR. TRAVELSTEAD: The other item that I had asked be placed under Other Business deals with the fact that apparently when crabs come to shore in Delaware and die some of the local jurisdictions actually send trucks to the beach to pick these animals up and I guess cart them off to the local dump.

It seems to me there might be an opportunity there to utilize those crabs or make them available to the fishermen. They're dead animals and technically they wouldn't count toward any quota. They've died of natural mortality and not fishing mortality. I believe Delaware is aware of this and was going to talk about it anyway, but I just wanted to bring it up.

MR. MILLER: Jack is exactly right. That practice does occur annually in Delaware and I guess what I'm seeking would be commission concurrence that any dead horseshoe crabs so harvested from the beach would not count against Delaware's quota if they were made available, if the fresher individuals

among those who die naturally could be made available to the bait industry.

In fact, if that's the case, Delaware would seek agreement from the commission that they would not count towards Delaware's quota.

VICE CHAIRMAN BOYLES: Any other discussion or other business?

MR. R. WHITE: I would make a suggestion that in the future when the board tasks the Shorebird Technical Committee that we be very specific in what we request from them so that they can be focused on coming back to us with the exact information that we wanted to come out of that board. Thank you.

MR. MILLER: Robert, I'm not sure I heard a response to that. I take it that the silence on the part of the board was concurrence with what Delaware suggested concerning the use of dead crabs?

VICE CHAIRMAN BOYLES: Board? I think yes.

MR. DUREN: Robert, let me ask a question. Do any other shorebirds feed on these dead horseshoe crabs? Is it going to impact anything other than gulls? It's a question. I don't know the answer.

MR. BREESE: I don't know if anybody has looked at that. There is some research on stranded crabs, but it's more of a count that's been done over the years by Botten and Loveland. When you go out on the beach, you can see scavengers eating them, but I don't know if we can quantify or illuminate this very much.

EXECUTIVE DIRECTOR O'SHEA: I think one issue is it seems to me as this has been explained is that there's, I presume, some sort of government activity, a municipality or people that run the beach, that are going in and picking up these crabs and hauling them to the dump.

I think one of the legitimate questions though may be with this sort of decision to shift them someplace else is this sort of oversight that's now being done by some sort of municipality and is that going to transfer to private individuals to go do that? That's just a question that may be worth asking and getting an answer to. It would seem to me they're not getting permission to haul them to the dump right now and as long as there is the same sort of government involvement in this.

MR. MILLER: I would like to quickly answer that. Private individuals are contracted by local municipalities to haul the crabs to the dump with state division of Fish and Wildlife concurrence and so it's an annual permit that is given to an individual working for a municipality.

That's how it's been done in the past and that's how we would probably propose to do it in the future. If we allow some of these crabs to enter the bait market, we'll probably have to institute more institutional controls to make sure that, of course, there isn't some slippage there.

VICE CHAIRMAN BOYLES: I failed to overlook and there was one more public comment that I know we would like to hear. Ma'am, if you could come up and if you could limit your comments to three minutes, please.

MS. CAROL HENDRICK: My name is Carol Hendrick. I drove here and it took me about four hours to come. When I entered the meeting this afternoon, one of the first things I heard was if you're going to speak about the addendum wait until later and everyone will have a chance to speak.

I honored your wishes and I didn't get up and speak at that time, but when I wanted to speak, I was not allowed to, because this body had decided it had heard enough. Talk about being frustrated. I know we all are. We had an interesting day and there were a lot of things that I heard that I wanted to speak about.

It doesn't matter now what I had to say, because you've already voted, but I'm not alone. There were a handful of people in the back of the room who wanted to speak who didn't have an opportunity, but this body got to hear from several people a couple of times. I think that you need to consider that, because it's not fair.

VICE CHAIRMAN BOYLES: Thank you, Ms. Hendrick. Is there any other business to come before the board? Is there a motion to adjourn? We are adjourned.

(Whereupon, the meeting adjourned at 6:10 o'clock p.m., May 9, 2006.)

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