

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

**Crowne Plaza Hotel - Old Town
Alexandria, Virginia
August 6, 2013**

Approved October 28, 2013

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1. **Approval of Agenda** by consent (Page 1).
2. **Approval of Proceedings of May 22, 2013** by consent (Page 1).
3. **Move to adopt the changes in the terms of reference as modified by the board** (Page 3). Motion by Pat Augustine; second by Bill Cole. Motion carried (Page 4).
4. **Move that the board approve the 2013 Atlantic Menhaden Fishery Management Plan Review and State Compliance** (Page 14). Motion by Pat Augustine; second by Bill Cole. Motion carried (Page 15).
5. **Move to adjourn by consent** (Page 16).

ATTENDANCE

Board Members

Patrick Kelihier, ME (AA)	Tom Fote, NJ (GA)
Terry Stockwell, ME, Administrative proxy	John Clark, DE, proxy for D. Saveikis (AA)
Steve Train, ME (GA)	Roy Miller, DE (GA)
Rep. Walter Kumiega, ME (LA)	Bernie Pankowski, DE, proxy for Sen. Venables (LA)
Dennis Abbott, NH, proxy for Sen. Watters (LA)	Tom O'Connell, MD (AA)
Doug Grout, NH (AA)	Bill Goldsborough, MD (GA)
G. Ritchie White, NH (GA)	Russell Dize, MD, proxy for Sen. Colburn (LA)
Rep. Sarah Peake, MA (LA)	Jack Travelstead, VA (AA)
David Pierce, MA, proxy for P. Diodati (AA)	Rob O'Reilly, VA, Administrative proxy
Bill Adler, MA (GA)	Cathy Davenport, VA (GA)
Mark Gibson, RI, proxy for R. Ballou (AA)	Louis Daniel, NC (AA)
Rick Bellavance, RI, Proxy for Rep. Martin (LA)	Bill Cole, NC (GA)
Bill McElroy, RI (GA)	Robert Boyles, Jr., SC (AA)
David Simpson, CT (AA)	Sen. Ronnie Cromer, SC (LA)
Rep. Craig Miner, CT (LA)	Malcolm Rhodes, SC (GA)
Dr. Lance Stewart, CT (GA)	Spud Woodward, GA (AA)
James Gilmore, NY (AA)	Patrick Geer, GA, proxy for Rep. Burns (LA)
Pat Augustine, NY (GA)	Jim Estes, FL, proxy for J. McCawley (AA)
Anthony Rios, NY, proxy for Sen. Boyle (LA)	Martin Gary, PRFC
Peter Himchak, NJ, proxy for D. Chanda (AA)	Steve Meyers, NMFS
Adam Nowalsky, NJ, proxy for Asm. Albano (LA)	Bill Archambault, USFWS

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

Ex-Officio Members

Staff

Robert Beal
Toni Kerns

Mike Waine

Guests

Bill Archambault, USFWS
Wilson Laney, USFWS
Charles Lynch, NOAA
Derek Orner, NOAA
Peter Burns, NMFS
Kelly Denit, NMFS
Robert Geisler, MSSA
Clint Waters, MSSA
Jimmy Kellum, Omega Protein
Ben Landry, Omega Protein
Jeffrey Pierce, Alewife Harvesters of Maine
Shaun Gehen, Kelly Drye Warren, DC
Aaron Kornbluth, PEW Trusts

Michelle Duval, NC DMF
Jory Gordon, PEW Trusts
Raymond Kane, CHOIR
Jim Price, CBEF
Ron Lukens, Omega Protein
Patrick Paquette, MA Striped Bass Assn.
Jeff Kaelin, Lund's Fisheries
Sally Campen, Japan Fisheries
Benson Chiles, Chiles Consulting
Janice Plante, Commercial Fisheries News
Ken Hastings, Mason Springs Conservancy
Alexei Sharov, MD DNR
Lynn Fegley, MD DNR

The Atlantic Menhaden Management Board of the Atlantic States Marine Fisheries Commission convened in the Presidential Ballroom of the Crowne Plaza Hotel Old Town, Alexandria, Virginia, August 6, 2013, and was called to order at 4:45 o'clock p.m. by Chairman Louis Daniel.

CALL TO ORDER

CHAIRMAN LOUIS B. DANIEL: Welcome to the Menhaden Board. This is a short one; I would also like to formally announce my last one. I would like to make sure that the South Carolina delegation takes very good care of Robert Boyles between now and the annual meeting to where he can take over. Please, don't let anything happen to him.

APPROVAL OF AGENDA APPROVAL OF PROCEEDINGS

You have an agenda and I've called the meeting to order. We have an agenda and proceedings from our May 2013 meeting. Are there any corrections, deletions, changes to either the agenda or the proceedings? I do have one piece of other business. Mr. John Coffey from National Marine Fisheries Service, I believe, or NOAA or NOS or one of the things from that crowd is going to speak to us for about five minutes at the end. Without objection, we will move on.

PUBLIC COMMENT

I do have two people that have signed up to speak during public comment. Are there any other folks that did not sign up that would like to address the board, just so I have an idea of how much time? All right, two minutes. The first is Jim Price.

MR. JIM PRICE: I would like to inform the board that the public was advised at a recent meeting of the Chesapeake Bay Program Sustainable Fisheries Goal Implementation Team that the team believes the ASMFC should be responsible for addressing the collapse of the Chesapeake Bay and Mid-Atlantic Coast striped bass forage base, since ASMFC is responsible for managing menhaden.

However, according to the ASMFC, the overfished status of menhaden is unknown, but overfishing is occurring. Although the ASMFC places a high priority on continuing work on the development of ecosystem reference points, which would explicitly address the forage needs of menhaden predators such as striped bass, the work is anticipated to take some time because of its complexity.

It would be an understatement to say the board has been struggling with this issue for years. CBF has provided the ASMFC with a copy of our research summary and chart. We recommend that the ASMFC consider using biological reference points for the nutritional status of Chesapeake Bay striped bass as recommended by a recent published paper in the North American Journal of Fisheries Management. There has been also a development in developing a meter that can actually check and see whether striped bass are nutritionally healthy. This would be a big breakthrough in determining whether or not the menhaden population is ecologically sound. I think it is something the commission should look into. Thank you.

MR. JEFFREY KAELIN: I am Jeff Kaelin from Lund's Fisheries in Cape May, New Jersey. I just wanted to take a minute to talk about the bait market situation from our perspective. The fishery in New Jersey closed almost two weeks ago. We're faced with decreasing supply, increasing costs of fresh menhaden, and it seems like the very people who demanded that the fishery be curtailed are now crying for bait that is no longer available or is very, very expensive.

We're shut down inside. We can't fish in federal waters either, and, of course, Omega is operating in federal waters. We've had to explain to some of our customers why that is happening. I don't have any problem with them fishing out there; certainly, that is fine. This coast-wide quota has been limited to the effect that you are kind of artificially constraining the bait fishery. This happens

when ASMFC does state-by-state allocations.

We've seen it before. It is critical in this fishery. We closed two months earlier this year than we did last year. I told you before we were reduced by 50 percent from what we had available last year; 50 percent; not 20 percent, 50 percent. We had to close down very early. There are fish everywhere and we're unable to access any menhaden for our bait customers.

We still think that you guys ought to go back and recalculate state allocations based on the 2012 catches, because we had an extremely robust fishery last year. We think that the quotas are artificially low based on the tremendous amount of resource that we're seeing. Another problem is that we have one state that created an IFQ or an ITQ, but that quota can't be transferred to the other states.

In other words, if the fish aren't available for the gentleman that holds an ITQ in Virginia, we can't bring him up and fish on the resource that Omega is working on offshore, for example, and allow him to utilize his quota off of New Jersey, for example, under a contractual relationship with us or another processor.

That fish could be lost to us for the season; not just us but to the gentleman that holds the quota in Virginia. We think that you guys need to begin to look at trading IFQs. If one state has an IFQ, it is not really transferrable. It is artificially locked up down there. Meanwhile there are fish up and down the coast.

It is a significant problem, and I think you have to think about how you can create additional flexibility so that the market can benefit from the resources out there. We don't want to leave fish in the water. We think you ought to ask the TC to go back and provide a review of the coast-wide quota option, because the state-by-state allocation process has totally screwed up the bait market for menhaden.

You've got quota available in areas where the fish aren't and fish available where there is no quota. We've made pretty good hash of this whole thing, I think. What I would like to see is

an addendum rolled out to begin to make some changes, so that we have flexibility and we can catch the fish; find a way. If that ITQ is sent up to New Jersey under the allowance that you've made for states to trade quota, the gentleman that holds the quota down there loses all value to it, and we don't get access to it, everybody in New Jersey gets access to it.

I don't remember Amendment 2 talking about an ITQ, but now we've got one in one state. You've got some more work to do, I think, to use that mechanism to benefit not only our fishery, but the people who are crying for bait. Thank you.

CHAIRMAN DANIEL: Thank you, Jeff. Last chance from the audience. All right, that will take us down to our technical committee report. Genny is here to provide us with some clarification on our terms of reference.

MR. PETER HIMCHAK: Mr. Chairman, we didn't have a discussion on the agenda. I wanted to bring up another issue if we have time.

CHAIRMAN DANIEL: Sure; I thought I added other business and did that, but go ahead.

MR. HIMCHAK: Okay, I thought we went right to the public comment, but, yes, I was just hoping or inquiring if any states could come up and give some kind of accounting for where their bait landings are so far this year and unanticipated problems. We could start thinking about solutions at the annual meeting.

Just one minor correction to what Mr. Kaelin had mentioned; our purse seine fishery is shut down. We may have some quota left over to reopen it for a few days, hopefully, but we still have 5 percent of our New Jersey TAC that is open to other gear types. If other states are encountering problems like we are, it would be nice to hear about them. Thank you.

CHAIRMAN DANIEL: I will accommodate that to the best of my ability, but I am going to have a hard stop at six o'clock. Is there anything else? Genny.

TECHNICAL COMMITTEE REPORT

DR. GENEVIEVE NESSLAGE: As you all may recall, the 2014 benchmark stock assessment terms of reference were approved at the May meeting a few months ago. But following that meeting, Mr. Goldsborough brought up a concern about some discrepancies between the Stock Assessment Workshop terms of reference and the Peer Review Panel terms of reference, specifically with regard to the targets. He has suggested some revised wording to clarify things.

What was going on was that the Stock Assessment Workshop terms of reference tasked the stock assessors with providing the recommendation on the stock status relative to both the thresholds and the targets, but the peer review panel was being asked only to provide their recommendation on the stock status relative to the thresholds and not the targets as well. These are the proposed revised wording for the Peer Review Workshop TORs, Numbers 4B and C.

The modified wording would read is the stock overfished relative to biomass or abundance threshold reference points; and where is the stock relative to biomass or abundance management targets? Then 4C has to do with the overfishing reference points. Is the stock undergoing overfishing relative to fishing mortality threshold reference points; and where is the stock relative to fishing mortality and management targets? Those are the proposed edits, which you have not seen and that staff would like you to consider before we sent these TORs to the SEDAR folks for their preparations for the 2014 benchmark peer review. Are there any questions for me?

MR. PATRICK H. AUGUSTINE: Mr. Chairman, if you would like a motion, **I would move that the changes that are recommended by the technical committee to the TORs that**

were highlighted in the document under "Terms of Reference for External Peer Review Panel", Item 4; evaluate the assessment findings with respect to the following.

Item B; to be limited to is the stock overfished? The second part of that; what information supports this conclusion. Under Item C, is the stock undergoing overfishing? With the final statement; what information supports this conclusion? Those are the corrections as supported. Thank you.

CHAIRMAN DANIEL: Is this okay?

MR. AUGUSTINE: Yes, it's fine.

CHAIRMAN DANIEL: Is there a second; Bill Cole.

MR. ADAM NOWALSKY: What is the consistency with this language with regards to TORs that we provide for other species stock assessments?

CHAIRMAN DANIEL: You're going to have to repeat that for Genny, because she was not paying attention either.

MR. NOWALSKY: I'll take the burden on myself and assume I just didn't speak loudly enough. What is the consistency with this type of language as compared to TORs for other species stock assessments?

DR. NESSLAGE: I think the language is consistent with other TORs. A lot of our stocks don't have specific targets, so we don't always have those. That might be why it was overlooked in the first round of drafts. That might explain why it wasn't consistent between the two, but this wording is pretty standard, and we did discuss it a bit with SEDAR. It will need to meet their approval, but it is pretty standard and follows their outlines as well in general.

CHAIRMAN DANIEL: To be fair, she was trying to make sure the motion was up on

the screen properly. Are there any further questions or discussions?

DR. DAVID PIERCE: I have no problem with the revised wording. I had thought that we covered that base under the terms of reference for the stock assessment process, Number 6. That is the process; that is not for the external Peer Review Panel. I just assumed it would flow to the Peer Review Panel itself, but we did touch upon it before. It is not a surprise; it makes sense.

CHAIRMAN DANIEL: Anybody else? Does anybody object to the motion? **Move to adopt the changes in the terms of reference as modified by the board.** Motion by Mr. Augustine; second by Mr. Cole. Is there any objection to the motion? **Seeing none; that motion carries.** Thank you, Genny. I think you're still up; benchmark stock assessment progress report, our quarterly progress report on our stock assessment.

DR. NESSLAGE: As Dr. Daniel mentioned, it was requested that the TC provide a quarterly update on the progress made for the 2014 benchmark stock assessment. I'll begin by providing you with a review of our timeline and our progress to date. We have been doing a lot of work in preparation for this 2014 assessment. It is going to require quite a bit of effort on everyone's part, so we are trying to do as much up front as we can before we launch into the data and assessment workshops.

We've had several workshops so far this year, and we plan to have another one next month in September to review preliminary life history data. Then we plan to have the official data workshop in January of 2014 where all agency, academic, private, public data sources will be reviewed and vetted at that time.

We'll have an assessment workshop in June of 2014, and then the peer review workshop is scheduled through SEDAR in early December. If all goes well, we hope to deliver and plan to deliver the stock assessment and the peer review reports at winter meeting, 2015. Everyone

please keep your fingers and toes crossed for that. That is the timeline.

We just wanted to provide a brief overview of our progress and what we were able to accomplish at the June meeting. We had a two-day meeting in person in Baltimore where we reviewed the existing state and federal fishery-independent survey data that are available from Maine to Florida and discussed whether or not they might provide information that would be useful in developing relative abundance indices for the assessment.

We identified 40 data sources, which is exciting; 34 state surveys and six regional survey datasets that may be potential candidates for index development. Some of these datasets have been considered before in previous stock assessments, but many of them are new. We're hoping that we might be able to add them to the assessment or blend them with the current indices that we use in the assessment and provide more information for the stock assessment.

Those data sources that we considered covered a variety of different gears, trawls, seines, gillnets, ichthyoplankton surveys that target both juveniles and adults. We're hopeful that we'll be able to gather some more information from these new data sources. At that meeting we also formed a subcommittee to further vet the data and explore the development of indices prior to the January data workshop.

Our hope is that we'll get a lot of the heavy lifting and the leg work done before we have that meeting so that we can hit the ground running in January and decide which datasets will be incorporated into the assessment, because we have a lot of modeling work to do in addition to data preparation.

The other thing we did was that we began reviewing some of the historical publications based off that tagging database that you've heard so much about. We began

discussion on the potential analyses that could be done to prepare and use that data in the 2014 benchmark stock assessment. While we're on that topic, I just wanted to spend a brief moment updating you on progress of the digitization of the historical tagging dataset.

We're happy to report that digitization was completed in July. The SAS and TC will begin organizing and analyzing that dataset for consideration of the 2014 stock assessment over the next few months. It needs to be collated into a giant database first, and then we'll start crunching the numbers.

We would like to extend a very warm heartfelt thanks to NOAA Headquarters and NOAA Chesapeake Bay Office for their financial contributions in helping make that happen. The technical committee is very grateful. Thank you very much. That is all I have for the progress report.

CHAIRMAN DANIEL: Questions for Dr. Nesslerage on this? It seems like we're making good progress.

MR. WILLIAM GOLDSBOROUGH: Genny, do you have a specific date for the data workshop in January yet?

DR. NESSLAGE: No, we don't at the moment, but we're hoping to send out a press release with that date and the instructions for data consideration in the next, what would you say, Mike, month or so. Look forward to that soon.

MR. GOLDSBOROUGH: Yes, that will be helpful to get it on calendars.

MR. ROBERT H. BOYLES, JR.: Mr. Chairman not a question, but just to repeat what Dr. Nesslerage said. In this day when we are so resource constrained, I appreciate the NOAA, Steve, for making those resources available to deal with this very, very important issue and to work with the states. Please pass on our regards and thanks, too.

CHAIRMAN DANIEL: All right, anybody else? Remind me of the deadline of materials

that can be submitted before – okay, we're going to make sure that is in the press release, so we don't run into that snake pit again.

CONSIDER DATA COLLECTION FOR PROPOSED AERIAL SURVEY

CHAIRMAN DANIEL: Okay very good. Nothing further; we're going to move into the next item on the agenda, which is; consider data collection for proposed aerial survey.

Dr. Sue Lakoski, as many of you know, has put together a proposal for how to conduct an aerial survey that may be of use in developing an abundance index. I asked the technical committee to review that; look it over, talk about it, ask questions et cetera, et cetera, and Genny is going to review the technical committee's findings on that. At that point, once Genny has given her presentation, I would like to give the board full opportunity to ask any questions and then ask Mr. John Coffey with NOAA NOS to come up and make some comments from the public microphone, about five minutes, six minutes.

We can cover this issue in its entirety and hopefully leave this meeting with a clear understanding of how we're going to deal or if we're going to deal with this aerial survey and go ahead and nip that in the bud. With that, Genny, if you are ready.

DR. NESSLAGE: The technical committee held a conference call on July 16th to review the proposed aerial survey design put forward by Dr. Sue Lakoski et al and to discuss overall the technical merits of the survey and determine based on the 52Rs that were presented in the board memo to us on whether or not the survey could potentially provide useful information for the 2014 or future benchmark stock assessments.

Overall, I'm not going to go into those super technical gory details at this moment unless you have specific questions, but I wanted to

provide you with the highlights of our overall findings. The first thing that the technical committee would like to mention is that we were pleased to see that there is progress being made towards one of the research recommendations we made in the 2012 update in that progress is being made to work with industry to collect age structure data outside the range of the fishery.

That is considered a good thing, and progress is being made. But the technical committee wanted to make sure that we were up front about the strengths and the limitations of the proposed survey designs so that everyone has a good understanding of how applicable this data may be for the 2014 assessment.

The highlights of the review were, first of all, that we felt that the study is unlikely to produce biomass estimates or provide data that will be highly applicable to the 2014 stock assessment. That doesn't mean that it wouldn't be considered or that it wouldn't provide some information, but it is unlikely that it would address all the problems that we're currently having, specifically with regard to the reduction fishery selectivity issue.

In general the technical committee was concerned that there was inadequate statistical justification for the proposed survey methodology in the proposal. Specifically when these types of surveys are designed, typically simulation studies are done in preparation or some sort of power analysis where the desired degree of precision is stated in that proposal. That was lacking.

The committee was really unable to determine whether the proposed number of transects, the proposed number of bio-samples was adequate for the goals and objectives of this study. Also the technical committee wanted to point out that the spatial area covered by this survey is not the entire range of the stock.

The proposed study would focus on sampling the mid and northern portions of the stock; so Virginia northward. The committee recognizes that this is a huge logistical and financial undertaking to do this, especially over a short

period of time, but we did want to make the point that these data alone could not be used to estimate the reduction fishery's selectivity, because they would produce biased high estimates of biomass.

The age structure characterization that would result from this study would be biased towards the older ages, because they are sampling from Virginia northward, where the larger, older fish are concentrated. It would not include information on the fish from North Carolina to Florida, where typically the smaller, younger fish reside.

In essence, it is not that this information wouldn't be informative necessarily, but it couldn't be directly comparable with what is coming out of the stock assessment or perhaps what might result from a coast-wide aerial survey. The technical committee also wanted to mention that the study could offer a benefit to the 2014 assessment by providing one year's worth, a small dataset that could be used to compare the age structure of those samples collected by the aerial survey with that collected in the bait fishery, especially in the northern region.

Right now we don't have a lot of information about the age structure of the stock up north. This could be really informative to see if the area covered by this survey, the samples taken from those fish compare to those taken in the bait fishery, which is currently our main source of information. It is possible that the fishery-independent data sources, these surveys that we have been vetting at the June meeting, may provide age samples as well.

It would be informative and interesting to compare the age structure for all those datasets in the assessment. The committee also felt that these data could be used in sensitivity analyses and might be helpful to help us estimate the degree of uncertainty in our parameter estimates. Then the last point is that this data could be used to develop statistical priors for our estimates.

Now the current BAM stock assessment model and our previous stock assessment models have estimated our parameters in what is called a maximum likelihood estimation framework, which is just one way of going about the business of stock assessment. If we did incorporate these data and used them to generate statistical priors, we would have to switch our estimation framework to a Bayesian framework, which is something that the technical committee has considered.

It is on the table and it is definitely something that might be worthwhile considering, but again it would require more work. The BAM code is able to do that. We would just need to change our framework and change the way we do business a little bit, which would take a bit of checking and thinking and discussing.

Then the last two points that we wanted to make is that it is unlikely that these data would be used in the base run of the 2014 assessment given the limited temporal and spatial scope. It could be used if we did switch to a Bayesian framework potentially, but we can't really guarantee that it would be highly informative to the assessment.

The last point is that in the proposal it was mentioned that the data would be delivered in February of 2014, but the data workshop is planned to be held in January, so it would arrive a month after all of the other data sources would be vetted. That is a concern of the technical committee. We would need to hold another conference call and change our protocols. I just wanted to make sure the board is aware of that. That is my report; thank you.

DR. DANIEL: An excellent one and I appreciate the technical committee taking on this responsibility like they did. I think they've given a very good review and report on this issue.

MR. DENNIS ABBOTT: I was sitting here, I wasn't daydreaming, but I was thinking of something that I shared with my colleagues here. Technology is changing rapidly. We saw satellite pictures which could determine the

height of Osama Bin Laden. There is technology that can see people walking on the streets.

Is there any possibility at some point in time to consider that type of technology to survey the fish in the ocean, especially what we're trying to do here? I don't think all the satellites are used by Department of Defense. There is weather; there are a whole bunch of satellites. Am I dreaming to think that is a possibility?

DR. NESSLAGE: I don't think you're dreaming. I think there are folks who are working on that. It is a little difficult, as I understand it, to use satellite imagery for items in the water as opposed to on land, which I assume is where Osama Bin Laden was found. I will say that I believe our next speaker is going to talk about the use of drones, am I wrong, which is up for consideration, which would be an advance in technology beyond the spotter pilot technology, which is what we currently use to survey – or at least the reduction fishery uses to survey for menhaden. That would be an advancement that would certainly be interesting to pursue. Does that answer your question? If we had the defense budget, I'm sure we could make it happen.

CHAIRMAN DANIEL: No doubt; no doubt.

MR. HIMCHAK: I had a question. You said that there could be some deliverables by February of 2014? That leads me to believe that there are some aerial surveys being conducted now during 2013. I mean, our purse seine fishery closed. What are they going to be detecting and groundtruthing? What masses of school are they going to be spotting, and then they've got to go down and groundtruth the age/size composition.

DR. NESSLAGE: It is my understanding that the study would begin ASAP so the next week or the week after is what was proposed, early August; end of July actually, but now we're getting up against that. They

would then be conducting that surveying through I believe November, if I remember off the top of my head. I can get that exact month for you. That would be this year. They are proposing to do the work this year. Does that answer your question?

MR. HIMCHAK: If they are starting in August, they are looking for schools of menhaden that are going to be pursed up and caught, but who is operating a purse seine fishery if we've closed and they're not sampling down in Virginia?

MR. MICHAEL WAINE: Just to clarify; as part of that proposal they were looking for the board to be discussing an exemption from the quota to be groundtruthing the catch from the aerial survey design. That is why you see the agenda item talking about the data collection portion of this survey design. Hopefully, that helps answer your question, Pete.

MR. HIMCHAK: Well, then there would have to be some kind of an RSA set-aside so that if we sent vessels out and they can't land the fish, they would have to dump them.

MR. MICHAEL WAINE: Yes, so I meant to include that in what I just talked about, which is that we're currently operating under Amendment 2, which was implemented in July 1 of this year. There is no RSA currently written into that plan.

MR. PATRICK AUGUSTINE: Well, where do we get the fish from or is this an episodic affair?

DR. DANIEL: We'll talk about that in a minute.

MR. AUGUSTINE: I thought so.

DR. DANIEL: Are there any other questions for Genny from the board?

DR. PIERCE: Genny, a great job done by the technical committee. This is a very thorough review of that aerial survey design, far more comprehensive than I thought we were going to get, so kudos to how serious the technical committee took this task. In reading over the summary of all of the TC's comments on the different terms of reference; I'm not very

optimistic that this survey is going to accomplish much of anything.

You put a positive spin on it, God bless you, but the memo itself gives me every reason to believe that this is not going to bear much fruit, if any fruit; very limited use of this survey. It sounds like unless the technical committee recommendations are adopted by the researchers, there is little chance or probably no chance that the product once delivered to ASMFC will be used, and we'll get a TC review that essentially says not useable. I hate to be a naysayer of negative, but again good job by the technical committee.

I can go through about 12 to 15 different comments that give me reason to be very suspicious that this is just not going to work and not be of use to the board. If the purposes of this particular survey design, this survey is to provide a basis for exempting or getting an exemption from the quota, then I don't think that is ever going to happen.

I guess my question now is what is the next step? The technical committee has provided this critique and are we going to wait for the researchers to respond to the recommendations of the technical committee, which I think they are going to have to accept in order for us to feel comfortable about this survey.

CHAIRMAN DANIEL: I have those folks queued up to talk and to ask questions and it looks like we're going to have the time to do that. I made that call to allow them to do that because we just went over our strategic plan, talking about collaborating more with industry. I want to give them that opportunity.

But at the same time, please don't anybody task the technical committee with anything. Don't do it, because I'm going to call you out of order. This is a very, very highly skilled, very technical, technical committee; the best of the best. They have been

overwhelmed with requests for review on stuff. Please don't ask for any additional technical committee work.

What you're going to get out of the technical committee, unless Robert changes this in October is you're going to get the stock assessment when you get the stock assessment, and they're going to be working their dead-level best to get it to you. I would please beg you not to charge this technical committee with another thing. You can do what you want, but I will rule you out of order, and you're going to have to do it at the Policy Board.

MR. JACK TRAVELSTEAD: First off, thanks to the technical committee for a very thorough review. I appreciate you taking that on in such a short period of time. I agree with Dr. Pierce's comments. I think we can't ignore the review by the technical committee. I have met with some members of the Virginia industry lately; and based on that review suggested that we ought really to be focusing on a longer-term aerial survey to get at what we really need and what the technical committee has listed as a top priority in research for probably more than a decade.

Rather than trying to get something done this year, we ought to be focusing on coming up with the appropriate design of an aerial survey, get that done, get it peer reviewed and then begin to try to find funding to get that done. That is exactly where Virginia is on this. More than a year ago, and I think you're already aware of this, we asked Dr. Rob Latour to work with some folks out on the west coast to design an aerial survey, and he has essentially completed that work.

I would say it is 99 percent complete. He is hopeful to have his work looked at by individual members of the technical committee and then send it out to some type of official peer review process. I think he is interested in perhaps seeking guidance from the ASMFC staff to help him do that. But he is ready to undertake those steps with the hopes that by next spring his survey design might be implemented on some pilot scale level.

I am hoping to try to find money to do that, whether it is from the Virginia General Assembly or NGOs or whatever. Once that design gets done and peer reviewed; I think we all have to start shopping it around to see if we can't come up with some funding to get it done. I am comfortable at this point by saying we probably should just drop the idea of trying to get something done this year in the hopes of getting something done right in the long term.

Funding is obviously going to be an issue, but we can't seek funding until we have an acceptable design. I raise it here now. I know I can't expect the board right not to sign off on Dr. Latour's design, but just know that is sort of where I'm headed on this with the hopes that as we make it through this process the board will feel comfortable enough to come along with it.

DR. DANIEL: Maybe if we join forces with the interrelationship between menhaden and striped bass, we can get both surveys done.

DR. MALCOLM RHODES: This is a little on this line, but I was just trying to remember, and I'm sure we dealt with it in the past, but several years ago we were dealing with the aerial surveys with the LIDAR, trying to get size composition, and VIMS was doing that study, I believe. I just can't remember the results of that. Were you unable to get a good biomass from those studies; can anyone comment on that?

DR. NESSLAGE: Actually, Dr. Sharov in the back of the room is probably the best suited to best address your question, but it is my understanding that technology was deemed not adequate for the goals of trying to estimate biomass in the Bay. Am I wrong, Alexi? Correct me, if I'm wrong, but I believe that that was abandoned as a design to be applied coastwide.

DR. DANIEL: Let the record show Alexei is not jumping up and down, so it must be right – just because Joe is not here to see

this, so we need to make sure he understands.

DR. RHODES: Well, to follow up, how is the aerial survey photographs and then judging it by Photoshop going to be superior to taking those pictures getting the sonar in the light refraction?

DR. NESSLAGE: It is my understanding that they would go out with spotter pilots, get an estimate from the air and then encircle the actual school and pull them up. You would have an estimate of biomass from that to compare with the actual aerial count and estimate. Does that answer your question?

DR. RHODES: Well, somewhat, but isn't that what they did on your studies? They flew it and then they collected the schools and tried to correlate? I'm just trying to pull up old memories. You know, it was a study that seemed similar to this, but maybe a little more technical.

MR. TRAVELSTEAD: I think there was some of that done, but clearly the LIDAR did not work. But it doesn't matter what the survey design is, you're going to have to have some groundtruthing to what the airplane or the drone or the satellite sees.

Just having said that; I think the board at some point needs to put on their agenda some discussion of how we allow that groundtruthing to occur relative to the quotas that everybody is under and whether or not we need an RSA for this species or what. Again going back to the timeline, if we are successful in implementing something in a pilot format this spring, I would hope by then we would have addressed this question of how we can groundtruth. We don't have that many meetings between now and then. At some point I think that needs to be on our agenda.

CHAIRMAN DANIEL: All right, any other questions for the board? If not, Alexei, did you have something to say to clarify anything that was said?

DR. ALEXEI SHAROV: Yes, thank you, Mr. Chairman. Just a brief clarification, the LIDAR

didn't fail actually. The conclusion of this study was that the LIDAR in certain conditions is very successful. The problem with the using of the LIDAR is the cost. For a large-scale study the cost is prohibitive for our purposes.

But the conclusion of the study was the combination that the best study, if money is not the limit, is the combination of LIDAR and a video survey. To address the question that was asked earlier, yes, the general idea for the aerial survey is to account for the number of schools that are encountered in the survey and the total area of the schools is estimated.

Based on the groundtruthing, we estimate the biomass of the school. Of course, it varies substantially from school to school, but generally it has to have some statistical properties. There has to be an average size of the school and an estimated variability. That is what would allow us to produce the total coast-wide estimate of the population biomass. Even with the aerial survey, the task is very formidable in terms of the size.

CHAIRMAN DANIEL: Thank you Alexei. Are there any further questions from the board?

MR. RON LUKENS: First of all, I want to add my thanks to the TC and the SAS for giving a really great review of the proposal. The only reason I'm interjecting here is based on their review soon after the webinar that was held, we determined that it was too risky, and we didn't want to pursue it any further.

For those who were concerned about the possibility of it going forward this year, we've decided for many reasons, as Dr. Pierce and Dr. Travelstead have stated, that we want to hold off and work with the TC and the SAS on a longer-term approach, partnering up with VIMS and seeing if we can help get the work done. Yes, I'm Ron Lukens; I'm with Omega Protein Corporation.

CHAIRMAN DANIEL: All right, if there are no further questions, we can move into very quickly the review of I guess it is the drone work that we're talking about. Introduce yourself to the board if you would please, sir.

MR. JOHN C. COFFEY: I am J.C. Coffey; I'm from the Research Branch of NOAA, working very closely with the Fisheries Service and the Sanctuaries and the Weather Service and a number of other parts of NOAA. I was asked to come here and just talk a little bit about unmanned aircraft. We don't use the drone word typically in our business. We say unmanned or remotely piloted aircraft.

Being a fisherman, I know it is a dangerous place to stand in between a fisherman and happy hour, so I'll go through this briefing pretty quickly. I'll stick around for happy hour; so if anybody has any questions, you can ask me there. The last slide is kind of the money slide, is the lessons learned slide and I'll get there soon enough.

But first this is what I'm going to talk about, a little bit about our visioning goals at NOAA for UAS; is and then what we've been doing with marine monitoring, and then finally the challenge and successes. It is interesting satellites were brought up, because one of the competitions right now is we can't get enough stuff into space; we just can't.

The way we've been using our satellites over the past ten years; they are running out of power. We are looking for other ways to do business up there. That photo on the left is a glider that costs about \$200. They can go up to 100,000 feet and then it is released. It can fly dozens of miles or stay right overhead. It comes down; we could do anything from aerial surveys with optics or chemistry work or atmospheric work.

That picture on the right-hand side is one of my favorites. It shows kind of the manned and unmanned interface that is required for unmanned aircraft operations. That is one of our research vessels, MacArthur, up in the Arctic doing an ice seal survey. You can see the dot

that is right behind the boat coming in is a scan eagle, which is about a 25 pound UAS.

It carries a gallon and a half of gas and can stay aloft for 24 hours. The optics that come from that UAS is eye watering from 10,000 feet. From 20,000 feet, you would be able to read a license plate; so pretty good technology. We talk about the expense of these things. If you let Mores Law work for you, the sensors are going to get twice as good, half the price and half the weight. That works out really well for unmanned systems.

This technology isn't new. We've been flying unmanned aircraft for a hundred years, but now the sensors that can get on these unmanned aircraft are pretty neat, so we can get them on smaller and smaller platforms. Just recently NOAA stood up an unmanned aircraft program. Our goal was to really revolutionize observation strategies.

Our three main areas that we were getting into are high impact weather, polar monitoring and marine monitoring. The high impact weather, getting in and around hurricanes, including the center, and one part of the hurricane we have a hard time with is from the surface to about 1,000 feet; and actually now it is to about 10,000 feet.

We don't like to fly manned aircraft down there, but we don't have a problem dropping drop signs in there. Ultimately we would like to have a small unmanned aircraft that can fly down there and collect the data we need. The one thing we're interested in is marine monitoring here, and I'll talk more about that.

The biggest thing is we're trying to get into the cost effectiveness of these platforms, and I'll talk a little bit more about that on my last slide. This is one of the platforms we use. This is the Air Environment Puma; it is all environment; it can fly in the weather. The nice thing is we can fly it off a relatively

small research vessel. I'm talking about below 30 feet.

It flies a couple hours and then has full motion video. It has electro-optics in the IR, and then it lands in the water right next to the platform, the research vessel. We scoop it up, change the battery and go flying right again. It is designed so that sailors, soldiers, marines; 18- and 19-year-old kids can get trained in a week and a half, and then go fly these things. It is a pretty effective platform.

This is a vertical takeoff and landing platform that we've flown from our research vessel. That is Dr. Wayne Perryman on the right side there. He led an expedition down in the South Pole, or actually I should say Antarctica, to do a penguin survey with this platform. It worked out pretty well for us, and I have some pictures for that.

These are some of the things we've been doing with our Pumas and our VTOLs. This is an oil spill drill out of the Channel Islands, right off the coast of Santa Barbara. We recently did an eco-terrorist drill out there sponsored by the Navy Postgraduate School, where eco-terrorists went out and blew up one of the rigs out there.

Then the Coast Guard, NOAA and others, it was a total of I think 63 federal, state and local groups went out to team up to first see what kind of spill it was; track the guys running away from the spill while trying to quantify and contain the spill. You see there a Coast Guard vessel putting green dye in the water.

A Puma is flying above it a couple hundred feet. With this, we're able to use the tools to judge the length and width of the spill, the float, course and speed. The nice thing is we were able to put this live feed to people's iPhones and laptops. In the old days a verbal report was enough, but now people want to see the picture, and we're able to do that.

Here is some of the other work we've done in the sanctuaries and for marine monitoring. We have the shoreline assessments, some law enforcement work we've done off the Channel Islands and down in the Keys; and then finally

our wildlife survey in the Aleutians, where we used EO, and in the bottom slide is an IR shot of ice seals perched on rocks.

Some other marine monitoring missions you see up on the left hand. That is one of our research vessels, Nancy Foster. We were doing a survey out of Grays Reef, which is off the coast of Georgia. You see on the bottom there – and you can blow it up, but that is a wooden turtle. When you look down to it, we noticed that the fin was damaged, so that turtle had been injured.

Up in the center top you have a tagging operation; we're tagging a blue whale there. This is out in the Channel Islands. The neat thing is we were flying 200 feet over the whale at this time. Even to the human ear you can't hear a thing; it's an electric power engine. Below are more ice seal shots. Upper right is from Antarctica. Those are penguins from above.

Then below is a leopard seal, and leopard seals are pretty aggressive; so in the past when we did measurements and things like that, we would have to go in and tranquilize the animal and get our measurements. Now we can kind of hover above them and take estimates. This is our new observation requirement in looking for schools of menhaden.

This is from a manned aircraft. We were looking for an area that we can do demonstrations. Right now one of the hardest parts of doing unmanned aircraft work is getting into the airspace. You have to either request a waiver from the FAA or if you use special use airspace, and that is mainly through the military, you can get in there.

An area that we picked out is – that is a picture of the Chesapeake, and Pax River is in the upper middle, which is a big naval air station. There is a bunch of restricted areas that we can get access to fly this kind of mission. It happens that the menhaden may be there. We had a manned aircraft,

unmanned aircraft, and also surface vessels that would be available to do that kind of survey, so we would get all three working together.

We can check out the cameras, see how good they work, and we can try a number of different platforms. Here are two of the platforms recommended. I talked a little bit about the Scan Eagle and the Puma, but these are from UAV Solutions. The MAXX is on top and the Talon is below. You can see that the duration is pretty good and it can carry up to, for the MAXX about a 20 pound payload.

We talked about LIDAR. The neat thing about LIDAR is the weight is coming down. There is a 10 kilogram LIDAR that was just announced that has a lot of capability. My experience with LIDAR is the quality of the water you're doing work in, so where if you're down in the Caribbean, we get up to 30 meter penetration with the right LIDAR. In other places it's tough because of the cloudiness of the water.

The one in the middle bottom is a little bit smaller UAS, but very portable. We could set them up on the beachside and get them flying quickly. This is my last slide. It is just kind of the lessons learned. People ask me all the time are they cheaper to fly. We're currently required to have one man per aircraft.

Given that manpower is even; we find that the unmanned aircraft actually are about 10 percent fuel burn compared to a manned aircraft. That Scan Eagle I showed on the first slide flies for 24 hours on a gallon and a half of gas. That is pretty darned good. It could go out there and do coastal surveys pretty easy.

The one thing that I recommend is rent don't buy. Until we really know what we're after, we can do demonstrations and I can guarantee you guys either industry would help us out or academia. Each one of your state's school has an Air Force, believe it or not. Every aerospace engineering department is putting together unmanned aircraft.

I'm involved in judging a lot of the competition with students. University of Maryland has an

Air Force, and Virginia Tech has an Air Force, and University of Florida has an Air Force. We could team with academia; we could team with industry, of course, our federal and in-state partnerships.

These are kind of surveys that we could put together pretty reasonably and also expand it to a larger community. My contact information is on the last slide. I'm going to leave this with you, please do not hesitate to contact me. Actually it was the next slide; those were all just backups. That one, the money slide with all the lessons learned, it is important. These things can get pretty expensive quickly; or if you reach out, you'll be surprised how many folks will want to help you out with this kind of work.

CHAIRMAN DANIEL: Excellent presentation; thank you very much. We'll have copies of that presentation that we can send out. They will be on the website. Any questions for J. C.? It does seem to show a lot of promise for it is we're looking to accomplish. I can see lots of utilities in that technology. Thank you very much, J.C., we appreciate it. All right, the next item on our agenda is our FMP review from last year, so don't get too excited about what's going on right now. This is from last year.

2013 FMP REVIEW OF THE 2012 FISHING YEAR AND STATE COMPLIANCE REPORTS

MR. WAINE: This is the 2013 FMP Review of the 2012 fishing year. The compliance reports are on the briefing CD and the draft FMP Review and supplemental materials. This is a little trip down memory lane for Louis here. Amendment 2 was implemented in July of 2013, and it established a coast-wide TAC of 170,800 metric tons beginning in 2013 and lasting until the completion and board action on the next benchmark.

We have state allocated quotas that were based on the 2009 to 2011 landings' history. There is an allowance for the transfer of

quotas between states. We have a bycatch allowance and also a 20 percent reduction in the Chesapeake Bay reduction fishery harvest cap; timely reporting to minimize quota overages and improve biological monitoring.

Currently the status of the stock; we are operating under interim reference points based on maximum spawning potential. Those F reference points were changed through Addendum V. That was Amendment 1. Then we subsequently changed the spawning stock biomass reference points to match up with the fishing mortality reference points through Amendment 2.

Based on the 2012 stock assessment update, this stock is experiencing overfishing. However, that overfished status is unknown because of uncertainties in the model runs of which you heard today an update that the Stock Assessment Subcommittee and Technical Committee is working on resolving some of those uncertainties. The status of last year's fishery; the total coast-wide harvest was 224,200 metric tons. That is a 2 percent decrease from 2011.

Reduction harvest was roughly 160,000 metric tons, which is an 8 percent decrease from 2011 and a 2 percent decrease from the previous five-year average. Bait harvest increased by 17 percent from 2011. It is up to 63,566 metric tons, and that is also an increase over the last five-year average.

This figure shows landings for both reduction purposes and bait, showing reduction landings being relatively steady while bait landings have increase, and the red line is bait. The next figure is regional bait landings; so your major players here and responsible for the increase is the Mid-Atlantic Region and the Chesapeake Bay, with relatively low landings in New England and the South Atlantic.

The biggest bait players, the top three bait players are in New Jersey, Virginia and Maryland. Moving on to the Addendum III harvest cap; remember, this is the 2012 fishery so we were still operating with Amendment 1 and all of its addenda. The 2012 harvest cap for

the reduction in fishery was 122,000 metric tons, roughly. Approximate reported harvest was 85,000 metric tons, so that was below the cap.

However for 2013 fishing year we have a change through the implementation of Amendment 2. The new harvest cap is 20 percent reduction from the original, and that is 87,216 metric tons. In terms of state compliance, all states were in compliance with Amendment 1 and the five addenda. The states of New Hampshire, South Carolina, Georgia and Florida requested de minimis status for 2013.

I put this bullet point in here just to let the board know that we actually already approved de minimis requests from those states as they offered that up through Amendment 2 implementation plans, which we did back in May. The PRT recommendations are to approve the 2013 Fishery Management Plan Review for Atlantic Menhaden.

Coming up next year we will be reviewing the 2013 fishing year in which all the changes through Amendment 2 will have taken place. The PRT will work with the states on the further requirements through that plan and in making sure that everything is reported as requested. I'll take any questions.

MR. AUGUSTINE: Are you ready for a motion?

CHAIRMAN DANIEL: To approve the review, yes, sir.

MR. AUGUSTINE: **I move that the board approve and accept the 2013 Fishery Management Plan as presented; how about including the de minimis?**

CHAIRMAN DANIEL: Already done. Second by Mr. Cole. We did it in Amendment 2. We were ahead of you, Pat. It is rare, but we were. Any questions or anything before I move us along? All right,

move that the board approve the 2013 Atlantic Menhaden Fishery Management Plan Review and State Compliance. Motion by Mr. Augustine; second by Mr. Cole. Is there any objection to the motion? **Seeing none; the motion carries unanimously.**

EXECUTIVE DIRECTOR ROBERT E. BEAL: Louis, on the occasion that this is your last board meeting as Chairman of the Menhaden Board, I just want to thank you for all the time you put into this board getting through the tough amendment, endless stream of phone calls from staff asking you how you wanted to handle things. On the behalf of everybody, thanks a lot for all your time put into this. (Applause)

CHAIRMAN DANIEL: My pleasure, thank you. I consider it a starred part of my resume; I'm serious. It was a very educational experience, and you guys were a great group to work with. You can't do it by yourself; I think we did a good thing. I'm proud of everybody and the way we handled it.

MR. DAVID SIMPSON: In terms of sort of recordkeeping and accomplishments and all, we're still saying in 2013 that we're overfishing menhaden. I'm wondering; the protocol, do we stay in that sort of negative cast until there is another assessment that demonstrates that we are not any longer overfishing even though we've all implemented sometimes painful measures to end that condition?

CHAIRMAN DANIEL: Well, I'm scared to death to say anything because it might be wrong. I'm not going to say a thing. I'm going to go out on a high note. I'm not going to screw up at the very end. I'm not going to say a word.

EXECUTIVE DIRECTOR BEAL: Don't say anything wrong in the last two minutes of your last board meeting. It is a great question, David. That is traditionally how he handled it. Unless we get an assessment update or some other piece of information that clearly indicates that overfishing has ended, you're right, it does leave some room for interpretation; but since we can't update all species all the time, that is where we are. But we will have the next benchmark that

folks are working on in 18 months or so. There is a new read that is coming up.

OTHER BUSINESS

CHAIRMAN DANIEL: That is exactly what I was going to say. Anything else? I don't think, Pete, we are going to get to your agenda item at this time, but it is a good question, and it is something – I don't know if we're planning to have a Menhaden Board at the annual meeting or not; are we? Have you thought about that yet? If we do, you might want to have the Chairman consider an update on the bait fishery and where things are in that if you decide to have a board meeting.

MR. HIMCHAK: Since we recognized back in December that we would learn a lot during the implementation of these TACs in this year, I think it would be wise for the states to come up with some kind of a report commenting on their implementation, their success, what was anticipated, what was not anticipated. If we could go over that at the annual meeting, I think it would be good for improving for 2014.

CHAIRMAN DANIEL: Talk to Robert.

MR. TERRY STOCKWELL: After advocating for the episodic event program, I did commit to come back to the board at the annual meeting with a report and remind the board that it is a pilot program. The board was going to review and potentially propose further modifications through initiation of another addendum.

CHAIRMAN DANIEL: What would we do without a Lobster Board and a Menhaden Board during the annual meeting week?

MR. STOCKWELL: I'm signing you up for eels.

CHAIRMAN DANIEL: That's right; no, no, no, no, no, no. All right, I've got two minutes left; anything else? Wait, I've got

Shaun in the back. If you get too long-winded, I'm going to cut you off.

(Whereupon, the meeting was adjourned at 6:00 o'clock p.m., August 6, 2013.)

MR. SHAUN GEHAN: I understand and Lord knows I don't want to, as J.C. said, get between anybody and the bar or a baseball game. Shawn Gehan, representing Omega Protein. Congratulations, Louis; thank you, Technical Committee, for the review, but sort of tie together the threads that have sort of been doing through this.

The technical committee reviewed a survey design the menhaden industry had proposed to get data to avoid the same situation we had with the update with the failed assessment. The review has come back, too many questions really to do such a large-scale project. We've had discussions with Jack and his team at VMRC.

In anticipation of that, we had talked with the folks at NOAA and their drone program to see if that was a potential way that we could cut some of the cost and was technology that would be useful. That is why J.C. was here sort of talking about the technology. Where things have evolved at this stage, as Jack alluded to before, is that currently Rob Latour, as he said, has a draft that is near final that is ready for peer review.

He will be working with NOAA and their academic partners at the University of Maryland School of Engineering to do a proof of concept this summer; next summer hopefully doing some testing for the aerial survey. That is what all this discussion was about just in case it wasn't clear. Thank you, Louis.

ADJOURNMENT

CHAIRMAN DANIEL: Thank you, Shaun. That concludes the board meeting. I did want to say though that this fellow right here; you can do worse than have somebody working with you like Mike Waine. He has done an awesome job with this plan, and I couldn't have done any of this without him. We all owe him a big debt of gratitude, too. (Applause) We are adjourned.