

**PROCEEDINGS OF THE
ATLANTIC STATES MARINE FISHERIES COMMISSION
AMERICAN LOBSTER MANAGEMENT BOARD**

**Webinar
May 3, 2021**

Approved August 2, 2021

Proceedings of the American Lobster Management Board
May 2021

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1. **Approval of agenda** by consent (Page 1).
2. **Approval of proceedings from February 2, 2021** by consent (Page 1).
3. **Move to postpone the development of a management strategy evaluation until the August 2021 meeting** (Page 7). Motion by Pat Keliher; second by Joe Cimino. Motion carried (Page 11).
4. **Main Motion**
Move to initiate an addendum to develop objectives for collecting high resolution spatial data, identify technological solutions, and develop system requirements (Page 42). Motion by Allison Murphy; second by Cheri Patterson.. Motion Withdrawn (Page 50).

Motion to Substitute
Move to substitute to recommend to the Policy Board that a letter be written to NOAA Fisheries recommending the prioritization of federal rulemaking to require the use of cellular-based or satellite-based vessel tracking devices in the federal lobster and Jonah crab fishery. Include in the letter the Lobster Board's willingness to establish a technical workgroup to support NOAA's efforts on vessel tracking (Page 44). Motion by Pat Keliher; second by Dave Borden. Motion withdrawn (Page 50).
5. **Move that the Lobster Board create a technical working group that includes NOAA, Law Enforcement representatives and members of the Board to develop objectives, technical solutions, and system characteristics for vessel tracking devices in the federal lobster and Jonah crab fisheries, and report back to this Board at the August meeting** (Page 50). Motion by Pat Keliher; second by Mike Luisi. Motion carried by consent (Page 51).
6. **Move to adjourn** by consent (Page 51).

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ATTENDANCE

Board Members

Pat Keliher, ME (AA)	Jim Gilmore, NY (AA)
Sen. David Miramant, ME (LA)	Emerson Hasbrouck, NY (GA)
Cherie Patterson, NH (AA)	John McMurray, NY, proxy for Sen. Kaminsky (LA)
Ritchie White, NH (GA)	Joe Cimino, NJ (AA)
Dennis Abbott, NH, proxy for Sen. Watters (LA)	Tom Fote, NJ (GA)
Dan McKiernan, MA (AA)	Adam Nowalsky, NJ, proxy for Sen. Houghtaling (LA)
Raymond Kane, MA (GA)	John Clark, DE, proxy for D. Saveikis (AA)
Rep. Sarah Peake, MA (LA)	Roy Miller, DE (GA)
Jason McNamee, RI (AA)	Craig Pugh, DE, proxy for Rep. Carson (LA)
David Borden, RI (GA)	Mike Luisi, MD, proxy for B. Anderson (AA)
Eric Reid, RI, proxy for Sen. Sosnowski (LA)	Russell Dize, MD (GA)
Colleen Bouffard, CT, proxy for J. Davis (AA)	Shanna Madsen, VA, proxy for S. Bowman (LA)
Bill Hyatt, CT (GA)	Allison Murphy, NMFS

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

Ex-Officio Members

Kathleen Reardon, Technical Committee Chair

Delayne Brown, Law Enforcement Representative

Staff

Robert Beal
Toni Kerns
Maya Drzewicki
Kristen Anstead
Lindsey Aubart
Pat Campfield
Emilie Franke
Chris Jacobs
Jeff Kipp
Tina Berger

Dustin Colson Leaning
Savannah Lewis
Kirby Rootes-Murdy
Sarah Murray
Joe Myers
Mike Rinaldi
Julie Defilippi Simpson
Caitlin Starks
Deke Tompkins
Geoff White

Guests

Karen Abrams, NOAA
John Almeida, NOAA
Bill Anderson, MD (AA)
Max Appelman, NOAA
Pat Augustine, Coram, NY
Joe Ballenger, SC DNR
Fred Bever, Maine Public Radio
Jeff Brust, NJ DEP

Joshua Carloni, NH F&G
Barry Clifford, NOAA
Colleen Coogan, NOAA
Heather Corbett, NJ DEP
Jessica Daher, NJ DEP
William DeVoe, ME DMR
Kurt Doherty
Aubrey Ellertson, CFR Foundation
G. Warren Elliott, PA (LA)

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Guests (continued)

Catherine Fede, NYS DEC	Scott Olszewski, RI DEM
Lynn Fegley, MD DNR	Derek Orner, NOAA
Jack Fullmer	Penelope Overton, Press Herald
Angela Giuliano, MD DNR	Chad Pfeiffer
Pat Geer, VMRC	Nick Popoff, FL FWS
Amelia Harrington, Univ. ME	Jason Rock, NC DENR
Heidi Henninger, Offshore Lobster	Bill Semrau, NOAA
Jay Hermsen, NOAA	Burton Shank, NOAA
Asm. Eric Houghtaling, NJ (LA)	Melissa Smith, ME DMR
Carl Lemire, NOAA	Somers Smott, VMRC
Tom Little, Ofc. Asm. Houghtaling	David Stormer, DE DMF
Charles Lynch, NOAA	Jason Surma, Woods Hole Group
John Maniscalco, NYS DEC	Stephanie Sykes, CapeCodFishermen
Kim McKown, NYS DEC	Megan Ware, VMRC
Conor McManus, RI DEM	Anna Webb, MA DMF
Nichola Meserve, MA DMF	Craig Weedon MD DNR
Wendy Morrison, NOAA	Meredith Whitten, NC DENR
Brandon Muffley, MAFMC	Chris Wright, NMFS
Jeff Nichols, ME DMR	Renee Zobel, NH F&G

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The American Lobster Management Board of the Atlantic States Marine Fisheries Commission convened via webinar; Monday, May 3, 2021, and was called to order at 1:00 p.m. by Chair Daniel McKiernan.

CALL TO ORDER

CHAIR DANIEL MCKIERNAN: Good afternoon everyone. This is the American Lobster Management Board, the first meeting of the spring meeting of the Atlantic States Marine Fisheries Commission. My name is Dan McKiernan; I am the Administrative Commissioner from the Commonwealth of Massachusetts.

APPROVAL OF AGENDA

CHAIR MCKIERNAN: First on our agenda is to approve the agenda. Is there any objection to the agenda as drafted and submitted to you in the materials? Raise your hand if anyone would like to modify the agenda. Any hands, Toni?

MS. TONI KERNS: No hands, Dan.

CHAIR MCKIERNAN: All right, hearing none it is approved by consent.

APPROVAL OF PROCEEDINGS

CHAIR MCKIERNAN: Next is approval of the proceedings from the February, 2021 meeting. Are there any objections to the proceedings as drafted, please raise your hand?

MS. KERNS: I don't see any hands.

CHAIR MCKIERNAN: I'll assume it is approved by unanimous consent.

PUBLIC COMMENT

CHAIR MCKIERNAN: Next is public comment. Toni, usually folks sign up physically with a pen and a clipboard. Has anyone from the public reached out to you or the Commission to speak as a member of the public on any issues that are not on today's agenda?

MS. KERNS: Not that I'm aware of. I'll double-check with Caitlin, and if there is somebody that wants to speak, they can always raise their hand.

CHAIR MCKIERNAN: Okay, why don't we give that a few seconds?

MS. KERNS: I am not seeing any hands.

CHAIR MCKIERNAN: Sounds good.

**CONSIDER TECHNICAL COMMITTEE
RECOMMENDATION ON MANAGEMENT STRATEGY
EVALUATION OPTIONS FOR GULF OF
MAINE/GEORGES BANK RESILIENCY AND SOUTHERN
NEW ENGLAND AMERICAN LOBSTER FISHERIES**

CHAIR MCKIERNAN: All right, next on the agenda we are going to consider Technical Committee recommendation on MSE, Management Strategy Evaluation Options for the Gulf of Maine/Georges Bank and Southern New England American Lobster fisheries. This is a follow up to the February, 2021 meeting, when the Board agreed to proceed with an MSE, or at least in the planning of one.

They tasked the Technical Committee to identify timelines and cost estimates for developing an MSE for both stocks, with several potential focal areas, including recommendations from the Southern New England stock assessment. That's in the briefing materials. I think at this time we have a presentation from Kathleen Reardon, unless Caitlin wants to add anything at this time.

MS. CAITLIN STARKS: No, I think Kathleen can go ahead. She'll probably cover all the background. Thanks.

CHAIR MCKIERNAN: Great, okay so Kathleen Reardon.

MS. KATHLEEN REARDON: As you already described, this is an update to the conversation that was started at the winter board meeting. At the winter board meeting, Jeff Kipp presented an introduction to the Management Strategy Evaluation process, after the Management and Science Committee recommended that the Gulf of Maine/Georges Bank stock was a lobster priority species for this process.

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The Board started to discuss the utility of this tool for the Gulf of Maine/Georges Bank stock, but was also asked about Southern New England stock. At this point, the Board tasked the TC to prioritize options, develop timelines, and draft budgets to assist the Board in considering the Management and Science recommendation for use of MSE for lobster management.

As a reminder, this slide gives an overview of the process, including the people involved and the original steps taken in the MSE process. This includes the initiation of an MSE, where stakeholders and managers must identify the objectives, metrics, uncertainties, and potential management to be considered.

Then scientists evaluate the data available, including both biological and economic metrics, then create models and simulations to evaluate those objectives and strategies. Then the stakeholders review those results. The process from objectives to models to review should be an iterative process, but it requires engagement from stakeholder managers to work with the scientists to produce usable options for management that achieve the objectives at the end.

To do this, the Lobster Technical Committee met via two webinars to prioritize and develop the next step for the options for MSE. The Lobster Technical Committee determined that while MSE has the potential for supporting management framework for Southern New England, the Southern New England stock is a lower priority for MSE. This was for several reasons.

The MSE process is meant to be a proactive tool to evaluate potential management to achieve sustainable objectives, and not to produce reactive strategies to current or past stock condition. Additionally, the scale of the Southern New England lobster stock and industry is much smaller, in terms of fleet size

and landings, as compared to the Gulf of Maine/Georges Bank stock.

The impact of an MSE would have less power, in terms of investment and management outcomes. The Technical Committee discussed that the approach to Southern New England, we would anticipate unique challenges that would likely require new data collection and modeling tools to address how the fishery has responded to climate change, and to better understand the dynamics of the mixed crustacean fishery. This would require customized model development and data collection on the stock level. On the other hand, the Technical Committee recommended that the Gulf of Maine/Georges Bank stock is the highest priority for a Management Strategy Evaluation. To approach the Gulf of Maine/Georges Bank stock, the TC recommended a two-phased approach.

The first phase would focus on stock levels models to provide an intermediate MSE at a coarser spatial resolution that could be used to support a management framework in a relatively short timeframe, while allowing time to build knowledge and tools to develop a subsequent spatially explicit MSE in Phase 2.

This phased approach could provide short term management guidance, while concurrently providing opportunity to build the framework and expand to a spatially explicit approach over a longer time period. The extended timeframe may also allow several large-scale changes that we see on the horizon for the lobster fishery that could impact the lobster fishery and management goals, to develop and thus better guide the cost and focus of incorporating spatial considerations explicitly into the MSE.

To get into more detail of the Gulf of Maine/Georges Bank option, the purpose of Phase 1 would be to evaluate the performance of management strategies, in response to changes in recruitment with biological fishery and socio-economic performance metrics. We anticipate this would take about three years, and include the Lobster TC, ASMFC staff, Board members, stakeholders, a biological modeler and an economic

modeler, and a professional facilitator. The estimated budget would be \$285,000.00.

In thinking about the timing of this process, there are some parallel efforts to consider that would contribute to Phase 1 within the next year. Yong Chen of University of Maine, has submitted a proposal to the National Sea Grant to develop population dynamic simulations, and incorporate environmental effects.

If funded this modeling effort would contribute and provide some of the biological modeling framework within the MSE. Secondly, NOAA Fisheries has initiated and funded a post doc to initiate the conceptualization of an economic model in the economic data collection. This would support development of an economic model within the MSE modeling framework.

In Phase 2, the purpose would be to evaluate the performance of spatially directed management strategies triggered by external forces. The second phase allows for the development and consideration of external drivers like climate change, whale interactions, and offshore wind development. The TC determined that much of the framework and budget, data and modeling requirements would need to be fleshed out and developed during Phase 1.

For more details on the Southern New England option, the Technical Committee recommended the evaluation of performance would need to start with a spatially directed management strategy, in response to changes in the recruitment and diversification of the fishery, with biological fishery and socio-economic performance metrics. At minimum, this effort would take five years and cost around \$750,000.00. But this may be a low estimate, as we anticipate there may be additional cost, dependent on stakeholder objectives. It is possible we could learn how to approach these issues within the two-phase Gulf of Maine/Georges Bank MSEs, but the Technical Committee recognizes the dynamics within the

biology and socio-economics can be different, quite different between the two fisheries. The TC indicated, due to the highly interdisciplinary nature of an MSE process, additional perspectives are needed to provide a comprehensive work plan for the second phase and spatially directed management strategies.

It is also important to recognize that these options currently assume the availability of ASMFC staff and TC members required to do this work. Stakeholder engagement outside the proposed meetings is likely going to be necessary for a successful MSE. With this in mind, staff time may need to be prioritized or modified to accommodate the MSE workload. Some of the competing issues at hand identified by the TC were stock assessments for Jonah crab and lobster, and also whale interactions.

While the TC recognizes that there are uncertainties in these options, we did make some recommendations for next steps. First, we need to develop a formal process to identify the goals and objectives for a future lobster fishery, with stakeholder and Board member input. An example of this is the Ecosystems Management Objectives Workshop, conducted by the Commission to guide ecological reference points for Atlantic menhaden.

Objectives developed from this process would be used to further develop the work plan for lobster. Secondly, the TC recommends the formation of a Steering Committee to complete additional scoping and development of a comprehensive work plan, including outreach with stakeholders to identify funding, and personnel necessary for the effort. Outreach efforts with organizations and fishing associations are not anticipated to incur a high cost, but are imperative for the success of the MSE.

The Steering Committee would include reps from the Board, industry stakeholders, Technical Committee members, ASMFC staff, Committee on Economics and Social Sciences, and the Assessment and Science Committee. It is important to include some people on the Steering Committee that have had past experience with MSEs, and ideally it would be around a dozen people. The next slide, this is my last one, thank you for your attention, and I am happy to take questions.

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CHAIR MCKIERNAN: Kathleen, this is Dan. I just have a couple of questions to start. Is the U Maine application for the Sea Grant funds, is that already in the pipeline? Is it necessary for the Commission or the Board to send a letter of support for that proposal?

MS. REARDON: As far as I know, it has already been submitted. I am not sure. I assume that there may have been a letter of support, but Caitlin or Toni might know better on that one.

CHAIR MCKIERNAN: Okay.

MS. STARKS: I believe Jeff Kipp is a Co-PI on that project, and therefore ASMFC couldn't submit a letter of report, but yes, the proposal has already been submitted.

CHAIR MCKIERNAN: It sounds like Sea Grant would be well aware that this would be an ASMFC endorsed work product, so that sounds good. Then my second question on the funding level for this Gulf of Maine/Georges Bank MSE. Would that be funded by the Commission, or would the Commission be looking for contributions from the states? I guess that's a question for Bob and Toni, maybe.

MS. KERNS: Go ahead, Bob.

EXECUTIVE DIRECTOR ROBERT E. BEAL: Dan, we haven't included that cost in our budget for this year. It's kind of a strange year, and we're not traveling as much as we thought, and we may have some funds available toward the end of the year, so we can. But then there is the decision if there are funds left over because we're not traveling.

Is this MSE the highest priority for those funds, or is something else in the Commission a higher priority? There may be a way to fund it from within the Commission. We just have to go through the process to decide through the Executive Committee if that is the priority, if we have the money available.

CHAIR MCKIERNAN: Thanks, Bob. All right, why don't we open it up to questions from members of the Board. Raise your hand if you would like to ask any questions.

MS. KERNS: David Borden, Dan.

CHAIR MCKIERNAN: Go ahead, David.

MR. DAVID V. BORDEN: As I said at the last meeting, I'm a supporter of MSE. I think it's a good idea. We should use the latest technology to try to manage one of our most important resources. Having said that, I'm struggling a little bit on the issue of the timing. The way I understand the presentation, it would take three years to develop an MSE.

Then at that point the Commission would if need be, start an addendum to implement components of the MSE. I'm now kind of thinking about what we're going to get into in a subsequent agenda item, relative to the Resiliency Amendment, and then the triggers. Is it envisioned that we would develop triggers as part of the MSE output, or are these two entirely separate? I'm a little confused.

CHAIR MCKIERNAN: Caitlin, would you like to take a crack at that with Kathleen assisting?

MS. STARKS: Sure. I guess in my mind I see them as separate. The Addendum from what I understand from the Board discussions, is intended to be a short-term action to have management measures that are ready to go if things change for the worse in the next few years. My understanding was the Board wanted to get this Addendum done quickly.

Whereas, the MSE process is a long one as you mentioned. It would take several years to get to the end of the MSE, and then potentially longer to implement any management actions to address the MSE recommendations. I see that more as a long-term process that is asking, in the long term what are the goals of the fishery, and how do you accomplish those goals, given things like climate change or other components that can be put into the models in the

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MSE. I guess I don't see the Addendum as being something that would come afterwards.

CHAIR McKIERNAN: David, are you good with that answer?

MR. BORDEN: I'm still a little confused, Mr. Chairman, it may just be me, so you may want to call on someone else. It almost seems like we should have an effort that is focused on resiliency, and that the trigger should be part of the MSE action that comes out of that. Maybe it's just my poor understanding of it. I suggest you call on someone else.

MS. KERNS: Dan, Pat Keliher had his hand up, and then Jason McNamee.

CHAIR McKiernan: Great, okay Pat Keliher.

MR. PATRICK C. KELIHER: First I want to thank Kathleen for that presentation, and I appreciate the fact that the TC has gone ahead and prioritized Gulf of Maine and Southern New England, and put together a budget. I do think, considering the size of that budget, I would think that the Executive Committee is going to need to spend some time thinking about that type of cost associated with this type of work. We have not done so to date.

I'm also concerned about the time that it's going to take and the potential speed of any decline that we might have. I would hate to be in the middle of an MSE process, spending a tremendous amount of resources, both from a staff perspective and industry perspective going forward, only to find that we're playing catch up constantly.

People around the table lived that with Southern New England. It seems to me we do need to finalize the Resiliency Addendum first, before we really undertake an MSE strategy, in order to develop things going forward. If there is decline in that time, we've got triggers. To David Borden's point, I think we need those triggers now, in case we, well not in case.

We're starting to see some soft trends now, based on ventless trap and settlement, and we certainly saw a decline in landings last year. At this point, Mr. Chairman, I think I'm ready to make a motion to postpone. But I'll hold that motion until you take more comments, if that would be better.

CHAIR McKIERNAN: Yes, let's hear from Jason McNamee.

DR. JASON McNAMEE: I think what I'm about to say is in support of what Caitlin offered, and I think also aligns with what Pat just said, and what David was wondering about. I don't see any reason why we couldn't move forward with the Resiliency work, in the sequence about whether it needs to be solidly first, and then move forward with the MSE, or if there could be some overlap.

But there is no reason why that couldn't happen, and then I can't remember who exactly said this, but you know you get the triggers are kind of built under our normal paradigm of just kind of working through some different options, and doing a little math on them, and putting them through the normal management process for approval. Those can then feed into the MSE as options, so we can kind of put them in place. We use our best judgment, thinking that they will be effective in some way, shape or form, and then we can test that in the MSE.

I think they can go together. One doesn't necessarily have to happen before the other. It sounds like people's comfort would be to move forward to get some of these triggers, and work on these triggers of the Resiliency work, get that moving forward. Then I think you can come in underneath with the MSE work.

Now that I think gets to one of the slides in the presentation from Kathleen, and that is, you know we're talking about the same people over and over again generally. It's going to be some preliminary work to sort of map this out a little bit, and to figure out where we might be able to start with some of the MSE stuff that's being done by external folks, while the folks that are already working as part of the ASMFC as their work on the Resiliency Amendment.

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Mapping the workload, I think is a challenge. But long story short, I think it could work okay to have the Resiliency Amendment kind of get going, and then those things can be pulled into the MSE to sort of test their effectiveness relative to the different tradeoffs that we're going to look at.

MS. KERNS: Dan, you have Cheri Patterson.

CHAIR MCKIERNAN: Great. All right, Cheri.

MS. CHERI PATTERSON: I agree. I think that the MSE needs to start. I think it sounds like there are some external sources that need to start their work, in order to be feeding some of the information into the MSE, and while we are in the interim period of looking at the Resiliency and the triggers that are needed. I think they both, and I understand that there is a heavy lift. I think they both need to be moving forward. One will definitely feed into the other in the longer term.

CHAIR MCKIERNAN: Well, we've heard from the four states that have fisheries in the Gulf of Maine/Georges Bank. Is there anyone else on the Board of any other members of those delegations that want to comment or ask questions? No hands?

MS. KERNS: No hands, Dan.

CHAIR MCKIERNAN: I actually heard some conflicting things. I thought I heard Pat Keliher suggest the MSE, we might pump the brakes on it. Whereas, I heard Cheri say let's go forward with it, and I heard Jason say let's move forward with. Well, we're going to talk about that next, the Addendum XXVII on Resiliency, because that will fall into place and can be tested in the MSE. I think we need a little more discussion on this. Pat, do you want to weigh in again? I think that so far, I'm not hearing consensus. But maybe I'm misinterpreting some of the comments.

MR. KELIHER: Mr. Chairman, thank you. I heard a little bit of the same, I think in what Cheri was saying that it still is a workload issue from the comments she was making. **I would make a motion to postpone the development of a Management Strategy Evaluation, until the Resiliency Addendum has been completed.** If I get a second, I could speak a little more to it.

CHAIR MCKIERNAN: All right, is there a second to Pat's motion?

MS. KERNS: Joe Cimino.

CHAIR MCKIERNAN: Okay, thank you Joe. Go ahead, Pat, if you want to speak to your motion.

MR. KELIHER: Yes, I think in postponing, it certainly is not my intent to kick the can down the road forever here. I think it gives us the time to prioritize the work in front of us on the Resiliency Addendum. As I said earlier, I think we need that Addendum in place with trigger mechanisms in place before we even initiate the development of an MSE in that first phase is upwards of three years long.

I'm also concerned, it's been touched on by several others about the work load that we have in front of us with the Addendum. MSE is also going to take a significant amount of time for the industry to participate, and we all know that their focus is definitely elsewhere right now, you know and that work load goes beyond them to other people within our agencies as well. With that I would urge us to prioritize the Resiliency Addendum and postpone until we finalize it.

CHAIR MCKIERNAN: Okay Pat, thanks, is there anyone else who would like to speak in favor of the motion?

MS. KERNS: I don't know if it's in favor or not, but Jason has his hand up.

CHAIR MCKIERNAN: Jason.

DR. McNAMEE: I don't know if it's in favor of either. Maybe you can hear me out and decide. You know everything that Pat said I think I am in agreement with. The one thing that gives me hesitation with this

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motion is, what I was trying to get at before. I think we should start work on the Resiliency Amendment first, so that is consistent with Pat.

But I don't know that there aren't elements of the MSE that can get started. I don't think we need the Amendment to start, get worked on and finished before we start the MSE, because I think in some elements of the MSE there might be external partners that are doing the work. I would love to see. You know I have concerns about work load as well.

I would love to see a map of how this could work in the most, try and optimize this a little bit. Figure out what we can get done for the MSE, while the ASMFC folks are working on the Amendment. I would hate to just delay this to the conclusion of the Amendment if we don't have to. I guess that's my point.

CHAIR McKIERNAN: I have a question, maybe back to Kathleen and the U Maine proposal to Sea Grant. Do you think the funding of that is contingent upon this Board embarking or reaffirming its commitment to do an MSE?

MS. REARDON: I don't think I can answer that question. The National Sea Grant, I believe that Review Panel is probably independent of this process, I would guess.

CHAIR McKIERNAN: I guess this is a chicken and egg challenge here, because next on our agenda we're going to talk about the development of Draft Addendum XXVII, and I'm trying to figure out timing, because if we come back. I don't want to jump the gun here, but if it's a timing issue, and the document is approved by, let's say the August meeting. I kind of doubt we would be able to approve it in time for October, but maybe we're talking February. Then we would be embarking potentially on the MSE. Pat Keliher, is that how you envisioned things developing?

MR. KELIHER: Mr. Chairman, I think it is. I mean my intent here is not to preclude our

external partners from doing that work. It's strictly to prioritize our work around the Resiliency Addendum. I'm not trying to put any sort of a gag order on respective staff that has some interaction with those external partners.

I just want to make sure we get the Commission to focus on the Resiliency Addendum in the interim. I feel like it is compatible to what Jason is saying, because I agree with Jason. The intent is not to stop all work on it, it's just to focus the Commission's work, and if we have an opportunity to interact during this period of time with our external partners, we should definitely do so.

CHAIR McKIERNAN: Pat, would you envision that at the meeting when any Draft Addendum XXVII was approved as a final action that the MSE evaluation would also be part of our agenda to then kick-start that?

MR. KELIHER: Yes, I think as soon as we're completed with the Addendum, the next set of work on the prioritization list would be MSE.

CHAIR McKIERNAN: All right, so we're still in discussion about the motion. Is there anyone else who hasn't spoken, or Jason would you like to weigh in?

MS. KERNS: Dan, you have a list of folks, Ali, Cheri, Joe, and David, who are all names. Jason put his hand down, but he did raise it at some point there.

CHAIR McKIERNAN: All right, thank you for that, Toni. Let's go to Ali.

MS. ALLISON MURPHY: I would support this motion. I think you know one of the tradeoffs that I heard mentioned in the discussion of this, either today or last meeting as well is that we might not be able to complete the Jonah crab stock assessment. Correct me if I'm wrong, Mr. Chairman, but I think we are supposed to be getting a report out on some pre-assessment work in August. I think delaying, at least until August, would kind of at least give me a better sense of what that tradeoff is.

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CHAIR MCKIERNAN: Cheri Patterson.

MS. PATTERSON: I do agree that the Resiliency Addendum should be prioritized, but I really do not like to see that word postpone the development of an MSE, because I think that that needs to continue to be moved forward. I would hate to see any sort of delay in, say this Resiliency Addendum, or even Jonah crab work continue to postpone this MSE.

I wouldn't mind seeing that the Resiliency Addendum be prioritized in this motion, but that the MSE will continue development, whether that be just outlining the steps, determining the outside sources that are going to be producing some information for this and such. But I think it's important to keep this one moving.

CHAIR MCKIERNAN: You're opposed to the motion as drafted at this point.

MS. PATTERSON: Correct.

CHAIR MCKIERNAN: Joe Cimino.

MR. JOE CIMINO: I guess now, after Jason's comments and the maker's clarifications. I just want to say as seconder on it, I fully agree with what Jason was hoping for, and Pat's acceptance of that this motion does not stop that. I'm still in favor.

CHAIR MCKIERNAN: Toni, any other hands?

MS. KERNS: You have David Borden.

CHAIR MCKIERNAN: David Borden, go ahead.

MR. BORDEN: I think I'm opposed to this specific language, and having said that I totally support what Pat said when he verbalized it, which was basically that we would prioritize the work on the Resiliency Addendum, and to the extent that we can work on MSE we would allow that process to go forward. I'm

supportive of his verbal characterization, but the language here is a little problematic.

CHAIR MCKIERNAN: David, do you have any recommended amendments to the language, or would you like to substitute?

MR. BORDEN: No, not at this time, thank you.

CHAIR MCKIERNAN: Okay. Toni, anyone else?

MS. KERNS: You now have Pat Keliher and Cheri Patterson.

CHAIR MCKIERNAN: Go ahead, Pat.

MR. KELIHER: Yes, Mr. Chairman, I realize the motion belongs to the Board at this point in time, but I think this feels like a little bit of semantics here. What I am trying to do is prioritize. If the seconder agrees to just readjust the language here to say prioritize the Resiliency Addendum over MSE, and just leave it at that. I'm happy to have it go forward that way, and it seems like that might meet everybody's intentions, based on their comments.

CHAIR MCKIERNAN: That might be a little too vague, because I think. Help me out, Caitlin. I think the Technical Committee wants us to, or the PDT wants us to develop possibly a Steering Committee, right, coming out of this?

MS. STARKS: Yes, thank you. I think it is a little vague to just say prioritize the Addendum over a Management Strategy Evaluation. I think we would need some more specific guidance as to when you would like the Steering Committee to be formed. Do you want to wait until the Draft Addendum is approved for public comment for us to form a Steering Committee and have that group meet?

Just more detail in what you're envisioning the timeline looking like would be helpful, because I think if you say that we're unclear on what to do, for example between now and the August meeting, in terms of the MSE, because right now the focus is on that Draft Addendum.

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CHAIR McKIERNAN: Would it, and I know I'm going to get to Cheri in a minute here. Would it be possible to postpone any vote on this MSE until say the August meeting, when at that time we will likely have a Draft Addendum XXVII, and probably will be able to take the temperature of the Board as to, you know whether the options that are coming out like have Board support.

Then things might fall into place a little better. I think we're all struggling with these two initiatives, and I know those who have been in favor of proceeding are comfortable delineating how they differ. But I still think that there is some sequencing here that is a little confusing. I see Bob Beal put his hands up. Bob, do you want to weigh in as the Executive Director with some guidance?

EXECUTIVE DIRECTOR BEAL: If my hand is up that is not intentional, but since I'm talking, I might as well keep talking. I think maybe postponing until August so you have more information in front of the group is fine. It doesn't delay things very long. You know the MSE is a multi-year project, and waiting a couple months really won't change the course of that very much, and we'll be able to get a lot more information in front of the group.

CHAIR McKIERNAN: Okay, but I still have a live motion up, and I still have some folks who have their hands up. Cheri Patterson.

MS. PATTERSON: I'm for what you just indicated. I'm okay with delaying this particular vote until the August meeting, when we get some more information on how far the Resiliency Addendum has moved forward.

CHAIR McKIERNAN: Is there anyone else, Toni? Do we have Emerson and Adam with their hands up, or no?

MS. KERNS: No, I don't have any of those hands up, I just see Pat's hand up still, but he took it down, so I think that was left over from before. No hands.

CHAIR McKIERNAN: I have a motion. Do we need to vote this motion up or down, given that there is some support building for maybe just a one-meeting postponement, as maybe a friendly amendment?

MS. KERNS: If that is the agreement of the Board to postpone to the August meeting, we might want to write that into the motion if Pat is open to that, and if not then we can bring the motion back, if it's the Board's intent to bring the motion back at the meeting, they can vote it back to the table.

CHAIR McKIERNAN: Do we need a motion to table then, if we're not going to vote on this, or to postpone until August? Is that a separate motion that we need, Toni?

MS. KERNS: No, just to bring it back to the meeting, since there is no time certain here. We would need to vote it back to the table at the August meeting.

CHAIR McKIERNAN: But how do we get this from being a live motion, do we just get consensus from all the Board members?

MS. KERNS: You can vote the motion up or down, and there is just no time certain to when, I mean it's just until the completion of the Resiliency Addendum. If somebody wants to bring it back up at the August meeting then they can bring it then.

CHAIR McKIERNAN: Yes, well the reason I am looking at this motion and I see until completion of the Resiliency Addendum, which Pat and I just mapped out may not be until February of 2022. If we want to continue conversations about the MSE in August or in October, that would prevent it from coming up, right?

MS. KERNS: The Board could discuss it, but Pat has his hand up, and then David and then Ritchie.

CHAIR McKIERNAN: Go ahead, Pat Keliher.

MR. KELIHER: Yes, if my seconder would agree to this small change, we could move to postpone the development of a Management Strategy Evaluation until the August meeting. That pushes it off to the

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next meeting, and then we can revisit the issue and figure out which direction we want to go in.

CHAIR MCKIERNAN: Okay, thanks. Ritchie, we haven't heard from you yet, Ritchie White.

MS. KERNS: Can we find out if that is okay with Joe?

CHAIR MCKIERNAN: Oh, with Joe, okay. Joe, as a seconder, are you good with that?

MR. CIMINO: I do support that, and while I have the microphone, Mr. Chair. At that August meeting, you know Jason McNamee brought up the concept of maybe having this timeline mapped out for how an MSE would proceed. I would hope that perhaps by then we can have something like that.

MS. TINA L. BERGER: Maya, you can make that change to the motion.

MS. KERNS: Dan, just a question to staff on whether or not, you know Jeff or Caitlin. Would that map be able to be created without a Steering Committee, or would you need a Steering Committee to create that map?

MR. JEFF J. KIPP: This is Jeff.

MS. STARKS: This is Caitlin, oh go ahead, Jeff.

MR. KIPP: I can jump and take this one. We did provide a timeline in the memo, and it gives the timeline of our major milestone, being the workshops. That is sort of in there as an initial map. I don't know if folks were interested in seeing more detail, but if they were then yes, we wanted the Steering Committee to be formed to help provide those greater details.

CHAIR MCKIERNAN: Okay, but this particular motion simply postpones the development, so there wouldn't be any creation of the Steering Committee if this motion were to pass.

MS. KERNS: That is correct, Dan, I just wanted to make sure that there is an expectation from the Board of what would come in front of them in August.

CHAIR MCKIERNAN: Okay. We haven't heard from Ritchie White.

MR. G. RITCHIE WHITE: I was just going to make a motion to change the motion as Pat has already done, thank you.

CHAIR MCKIERNAN: All right, so are we comfortable with Pat's motion, which would postpone any new developments, in terms of the creation of a Steering Committee just three months out, and then we would come back with some more discussion, and then at that time we'll ask the creation of a Steering Committee.

MS. KERNS: Mr. Chairman, Joe has his hand up. I don't know if it's a factor from before or not, it was so he no longer has his hand up. I don't see any hands raised.

CHAIR MCKIERNAN: Since Jason brought up the issue of mapping out the future. Jason, are you comfortable if we simply pick this up in August, without any developments over the next three months?

DR. McNAMEE: Yes, thank you, Mr. Chair. Yes.

CHAIR MCKIERNAN: All right, so why don't we proceed to a vote on this. **Is there any objection to the motion as amended and appearing on the board at this time?**

MS. KERNS: I see no hands, Mr. Chair.

CHAIR MCKIERNAN: All right thank you. **Seeing none, it is approved by unanimous consent.**

**UPDATE ON DEVELOPMENT
OF DRAFT ADDENDUM XXVII ON THE
GULF OF MAINE/GEORGES BANK RESILIENCY**

CHAIR MCKIERNAN: All right, well we're looking forward to that at the August meeting, because obviously the next item on the agenda is the one that I

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think the Board is trying to prioritize and develop on a quicker timeframe, and that is Update Draft Addendum XXVII on the Gulf of Maine/Georges Bank Resiliency. Clearly this is something some of the Board members want quicker than the three to five-year timeline. At this time, there is a presentation by Caitlin, I believe.

MS. STARKS: Yes. All right, just want to make sure everyone can see the slide.

CHAIR MCKIERNAN: Yes.

MS. STARKS: Great. All right, this is Caitlin Starks, the FMP Coordinator for Lobster. I'm going to give a presentation on the development of Draft Addendum XXVII, which is on Resiliency of the Gulf of Maine and Georges Bank stock. In the presentation today I'll just be covering some background information on the action, go over the draft timeline for the action's development.

I'll briefly review the new abundance reference points from the 2020 assessment, as they pertain to this discussion, as well as the current management measures. Then I'll summarize some considerations for the Addendum that were raised by the Technical Committee, highlight some areas where the Plan Development Team has requested guidance from the Board.

Then finally I'll go over the Plan Development Team's recommendations for draft management options. Draft Addendum XXVII was originally initiated in August, 2017. The Board at that meeting received a report from the Gulf of Maine and Georges Bank Subcommittee, which was established to discuss future management of the stock, given changing ocean conditions.

The Committee highlighted some concerns about decreasing trends in Maine's larval settlement survey over recent years, and that those trends might be foreshadowing future

declines in recruitment and landings. As a result of that report, and the Committee recommendation, the Board initiated Draft Addendum XXVII to increase the resiliency of the Gulf of Maine and Georges Bank stock, by considering uniform management measures across the stock.

However, following the initiation of the Addendum, work on the Atlantic right whale issues became the Board's highest priority, and efforts on the draft addendum were stalled. Then in February, '21, this year, the Board reinitiated work on this addendum after receiving the 2020 stock assessment results.

As I mentioned on that last slide, prior to February, 2021, the focus of the draft addendum was on standardization of management measures across the LCMAs in the Gulf of Maine and Georges Bank stock to resolve differences in measures that would allow some lobsters to be protected in one LCMA, but harvested in another. The five areas that were recommended by the PDT to consider standardizing were the V-notch definition and requirements, minimum gauge and vent size, maximum gauge size, whether tags issue for trap tag losses should be issued before or after the trap loss occurs, and finally whether these regulatory changes would apply throughout LCMA 3 or just to the Gulf of Maine and Georges Bank portion of LCMA 3.

In February the Board made this motion on the screen to reinitiate PDT and TC work on the Gulf of Maine Resiliency Addendum. The Board specified that the Addendum should focus on a trigger mechanism, such that upon reaching the trigger measures would automatically be implemented to improve the biological resiliency of the Gulf of Maine and Georges Bank stock.

That changed the focus a little bit from standardization. This is the proposed timeline for the development of the Draft Addendum, and as I mentioned work was reinitiated in February, and since then the PDT and TC have met several times each to work on developing the draft management options, and think about that trigger mechanism.

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At this meeting today the goal is to review the recommendations from those groups, and get input from the Board to guide the development of the document. Then after this meeting over the summer, the PDT and TC will work to prepare the draft addendum document, and the plan is to present that document to the Board at the August meeting for consideration for public comment.

If approved for public comment in August, public hearings could take place in late August or early September, and the Board would then be able to meet to consider the Addendum for final approval in October. Now because these are relevant to the discussion today, I just want to briefly review the abundance reference points that were approved following the 2020 assessment.

The Board adopted three reference points for the Gulf of Maine and Georges Bank stock, based on the assessment and peer review recommendations, and those are fishery/industry target, an abundance limit, and an abundance threshold. As a reminder, these reference points were developed using a new methodology that accounts for a changing environmental regime. The fishery industry target is the highest reference point, and that is calculated as the 25th percentile of the high abundance regime.

Below that level the stock's ability to replenish itself is not considered diminished or jeopardized, but falling below this reference point just represents moving towards the lowest levels of abundance during the current abundance regime. Next is the abundance limit, and that is calculated as the median of the moderate abundance regime, and below this limit is where the stock abundance is considered depleted, and the stock's ability to replenish itself is diminished.

Then lastly, the abundance threshold is the lowest reference point, and that is equal to the average of the three highest years of the low

abundance regime, and below this level the stock abundance is considered significantly depleted and in danger of stock collapse. Here is a visual for these three reference points and where they fall on the Gulf of Maine and Georges Bank model abundance curves. The dotted line at the top is the fishery industry target, the dash line is the abundance limit, and the solid line at the bottom is the abundance threshold. The black dot on the right represents the average abundance from 2016 to 2018, which is what was used to make the stock status determination. As you can see, above the fishery/industry target the highest reference point. I'll just also note here that the three gray areas are the different abundance regimes. Since we'll also be talking about some of the measures today, I just wanted to quickly remind everyone of what those are for each area.

I just wanted to put these up on the screen, and most importantly, well these are just the areas within the Gulf of Maine and Georges Bank stock. I think the most important thing is to just make note of the differences in a minimum gauge size and vent sizes across the areas, the differences in the V-notch definitions and requirements, and the differences across areas and maximum gauge size, as well as differences within the outer Cape Cod area for state and federal waters.

Now I'll just go over some of the key takeaways from the Technical Committee discussions on the Addendum and, in particular, the TC thought about and offered their advice to the PDT on indices that could be used to establish triggers for management measures. The levels are conditions that could be used to define those triggers, and the types of management measures that could be used to increase biological resiliency.

On the triggers, the TC discussed the pros and cons of various data streams that could be used to establish those triggers. They ultimately agreed that the abundance indices that will be updated annually during the data update process that was recommended by the Stock Assessment Subcommittee would be the most appropriate to use for index-based triggers.

These include the Maine and New Hampshire Trawl Survey, the Massachusetts Trawl Survey, and the Ventless Trap Survey Indicators. The TC specified that the indices specifically for a pre-recruit abundance would be preferred for both the Trawl and VTS Surveys, because looking at those sublegal sizes can provide a forewarning for future trends in spawning stock biomass.

For the trawl survey, the recommendation would be to combine the Maine and New Hampshire Survey and the Massachusetts Survey data into single indices by season, and constrain those to the survey provided strata, and specifically for sizes from 71 to 80 millimeter and sexes aggregated.

Then for the Ventless Trawl Survey it's noted that while the time series is shorter, and the focus is more on the inshore areas versus offshore, the Technical Committee still agreed that it should be considered as an index for establishing triggers. They also reviewed correlation analysis from the stock assessment, and noted that there is a relationship between those trawl indices and the model abundance, which is supported by using those indices for a trigger mechanism.

The Technical Committee also discussed the idea of you could establish a trigger based on the model abundance from the assessment, but they noted that this approach has a drawback in that it wouldn't allow management responses to be as timely, since the action could only be triggered if there is an assessment. Therefore, they suggested that it might be appropriate to have multiple triggers with one being based on indices, and one being based on model abundance. As for how those trigger levels should be defined. The Technical Committee agreed that they should be related at least to the assessment model outputs and the abundance reference points adopted by the Board. The two relevant reference points that were discussed were the fishery industry target, which is that highest reference point, and a trigger level that is linked to this reference point

on a scale of very proactive or conservative to not so active, would be more on the proactive end of the spectrum.

The abundance limit is the point again at which the stock is considered depleted. Having a trigger level associated with that reference point would be a more reactive than proactive management choice. If the trigger mechanism is based on survey indices, the Technical Committee suggested that the trigger point could be defined using a rate of change approach.

For example, this could be something like if the medium rate of change over three years is negative 10 percent that would trigger the management measures. In this approach the TC recommends using a running median to smooth out annual variation, and also to better identify declining trends as opposed to an average.

The TC also discussed possibly basing the rate of decline on the trends that were observed in the Southern New England indices around the time of the stock collapse. But further exploration would be needed to come up with that relationship to define that rate of change. Then lastly, the Technical Committee felt it would be important to incorporate the overall magnitude of decline, as opposed to just saying a certain number of years of decline.

Specifically, they suggested defining a magnitude of decline that would approximate the abundance falling from current levels to one of the reference points. To give you an example of what the TC needs with that last suggestion. If we assume that the current abundance is equal to the three-year average abundance for the terminal years of the assessment, which is that black dot, and the level of abundance we want to approximate with the index-based trigger is the abundance limits.

Then we would take the distance between those two points, and figure out what the percent decline is, and use that magnitude of decline in the index as the trigger for management measures. The TC may need to do some additional analysis to figure out what that relationship is between the model abundance and the indices, but this gives you a general idea of what they

mean. Then lastly, the Technical Committee discussed the types of management measures that are most appropriate for the goal of increasing biological resiliency.

Overall, they agreed that increasing the minimum gauge size is expected to have the biggest impact on stock resiliency, by allowing more individuals in the population to reproduce, even with relatively small changes to the minimum gauge size. They noted that when you increase the minimum gauge size, that is expected to marginally decrease the number of lobsters landed, but that the total weight of landings would likely increase.

They also agreed that vent size changes should be consistent with changes in the minimum gauge size. Then for maximum gauge size, the TC commented that changes do have the potential to provide increased stock resiliency, but that the effects are less certain, especially offshore where there is less data available. They noted that for maximum gauge size, minor changes are also less likely to have a big impact, because inshore where most of the landings are from, the size structure of the population is also truncated such that there aren't many large lobster individuals being caught. During these discussions the Technical Committee reviewed the gauge size analysis that was done previously for this Addendum, before it was held up.

They acknowledged that while the inshore data were fairly comprehensive for that the data available for Area 3 that were used in that analysis were quite limited, so the Technical Committee is planning to update the analysis, include some more recent data that have become available since the 2015 assessment on discards in Area 3.

With those updated analyses they should be able to have a better idea of how gauge size changes would impact the offshore portion of the stock. Before I go into the PDT recommendations and draft management options, I just want to bring some questions to

the Board's attention that the PDT and TC have requested feedback on.

Both of these groups have expressed that without the Board providing them some direction on the goals and objectives of the Addendum, they can't really move forward with developing appropriate management options. The questions they would like the Board to think about as we discuss the Addendum today are, what are the Board's objectives with regards to biological resiliency of the stock?

For example, should draft management options aim to maintain the current levels of abundance and productivity, or if not, then what levels of abundance is the Board aiming to maintain, or are there other goals related to biological resiliency that the Board is hoping to achieve, like broadening the size structure of the stock. Second, how proactively does the Board want to react to changes in the stock?

For example, how much decline is the Board willing to tolerate before implementing measures, and how does the Board want to react to changes in stock indices between assessments. Third, what are the Board's priorities with regard to standardization of measures across LCMAs versus stock resiliency? Is one of these more important than the other? Then lastly, if the Board is looking to standardize measures throughout the Gulf of Maine and Georges Bank stock, what are the goals and purposes of standardizing those measures?

Is the Board most interested in standardization for the purpose of increased resiliency or for improving enforcement, or facilitating stock assessment, addressing supply chain issues, et cetera? If there is more than one objective for standardization, how should they be prioritized? Without having full direction on those questions, the PDT has recommendations about how to structure the management options in the Addendum.

They recommended that the management options be presented in a package structure, where each option that goes out for comment would include a predetermined set of management measures that would be implemented when a defined trigger is met.

The rationale behind this structure is that the measures would then be able to be crafted with specific goals in mind, and relative to the trigger level that they are associated with. Secondly, it reduces the burden on the public to think through all the possible outcomes if there is a number of proposed triggers, and a variety of management measures that are being considered separately. In addition to that, the PDT has recommended options that are not all mutually exclusive, and could be combined with one another to accomplish multiple goals, or allow for different management responses to occur at different trigger points.

As you'll see in the next slide, the different options represent alternative goals, or different levels of precaution. Some options focus more on the standardization of measures, while some focus only on resiliency and increasing resiliency, and some are a balance of both. Then likewise, some of the options are more proactive while others are less proactive.

This is an overview of the five options the PDT has drafted, and in the next slide they'll go into detail on each one. But Option 1 is always the status quo. Option 2 is more focused on the issue of standardization and resiliency, so it would aim to standardize some of the more easily resolved inconsistencies and measures within and between LCMA's.

For that Option 2, those measures would be implemented upon final approval of the Addendum, rather than through a trigger mechanism. Then Option 3 is focused only on resiliency, and it would be to implement LCMA specific measures to increase biological resiliency, upon reaching a defined trigger.

Then Options 4 and 5 are aiming to balance standardization with resiliency, and there are envisions of kind of complementary options, where standardized measures would be implemented by reaching one trigger in Option 4, and another change to measures to increase resiliency being implemented at another trigger

under Option 5. As I mentioned, that some of these are not mutually exclusive, and could be combined. That is what the color-coded column on the right is showing, so the options with matching colors can be combined with one another.

I also want to note that for most of these options the PDT has not yet defined specific triggers or management measures, because they are looking for that additional direction from the Board on the goals and objectives, in order to determine what is appropriate. As I go through these, I'll try to highlight where the PDT has made some suggestions for the Board to think about and discuss. All right, so I'll go into a bit of more depth on each option.

Option 1 obviously is straightforward, but status quo would maintain the current management measures, and would not establish any trigger mechanisms. It probably goes without saying, but this cannot be combined with any other option. Option 2 is to implement some standardized measures upon final approval of the Addendum, and there are a few sub-options that determine which standardized measures would go into effect.

Sub-option 2A is that standardized measures would only be implemented where there are existing inconsistencies in measures within an LCMA for state and federal waters in the Gulf of Maine and Georges Bank stock, and they would be standardized to the most conservative existing measures. What that translates to is that the maximum gauge size in outer Cape Cod would be standardized to 6-3/4 of an inch for both state and federal waters, and the V-notch definition and requirement would be standardized to 1/8 of an inch, with or without the setal hairs. Sub-option 2B would add on to that by also standardizing the V-notch requirement across all LCMA's in the Gulf of Maine and Georges Bank stock. This would result in mandatory V-notching for all eggery in LCMA 1, 3, and outer Cape Cod. Then Sub-option 2C adds on further with the option of standardizing regulations across LCMA's, such that there would be no issuance of replacement tags for trap losses before a trap loss occurs. Option 3 focuses on increasing resiliency, and not on standardization.

This option establishes a trigger to implement LCMA specific measures to increase resiliency. The first sub-option is to increase the minimum gauge sizes in each LCMA of the Gulf of Maine and Georges Bank stock by an equivalent amount. Again, the PDT has not determined what the proposed measures would be yet, but as an example for discussion, they put forward increasing the Area 1 minimum gauge size to 3 and 5/16 of an inch.

It is currently at 3 and 1/4 of an inch, and then increasing the Area 3 and outer Cape Cod sizes by an equivalent amount, and the goal being to bring the minimum gauge sizes closer to the size at 50 percent maturity. The second sub-option is to implement those increases to minimum gauge sizes, and also decrease maximum gauge sizes by equivalent amount.

Again, the PDT has not defined those measures yet, as they are still waiting to see more analyses from the TC. Then as a final note, this option could be combined with Option 2, but not with the next few options. As I go through Option 4, it is just important to keep in mind that the PDT has kind of intended Options 4 and 5 to work together.

Option 4 is to implement the standardized measures upon reaching a defined trigger, which we're calling Trigger 1, since it hasn't been defined yet. The idea with this option is that Trigger 1 would be set at a relatively proactive level, compared to the trigger in Option 5, and the measures that would be implemented would standardize the minimum and maximum gauge size and vent size for all LCMAs in the Gulf of Maine and Georges Bank stock.

The PDT has suggested that the trigger could be based on an observed decline in the indices that would approximate falling from the current levels to the fishery industry target abundance reference point. Again, measures haven't been defined, but the PDT offered the example of a standard minimum gauge size of 3-5/16 of an

inch, which is closer to the size at 50 percent maturity for Area 1, and a maximum gauge size of 6-1/2 inches, which is a middle-ground size that decreases the maximum size in Area 3, and increases it in Area 1.

Those changes would be expected to provide some level of increased resiliency to the stock. Then there is also a second sub-option under this option that adds on the implementation of any of the measures from Option 2 that were not selected by the Board. The idea here is that if there is not a desire to implement some of those Option 2 measures right away when the Addendum is approved, they could be tied to this trigger instead, so that they would be implemented later.

Then last is Option 5, which could be used independently or combined with Option 4, to add another trigger for management measures that would aim to increase resiliency. Under this option, the first sub-option is to implement a change to the minimum gauge size/vent size, and maximum gauge sizes for all LCMAs in the Gulf of Maine and Georges Bank stock, to increase biological resiliency at the point at which Trigger 2 is reached. Again, Trigger 2 is not defined, but the PDT recommended that that trigger should be set at a lower level of abundance or a higher level of stock concern than Trigger 1, so it would be less proactive. They suggested that either a stock status determination that abundance is near or below the abundance limit reference point, and/or an index-based proxy for that abundance limit, could be potential triggers.

For measures, the PDT said they should include an increase to the minimum gauge size, and a decrease to the maximum gauge size implemented under Option 4. The second sub-option here is that in addition to those measures this trigger could also standardize the V-notch definition to 1/16 of an inch across LCMAs in the stock, and that is as a middle ground between zero tolerance and 1/8 of an inch.

Again, the PDT intended Options 4 and 5 to be combined with Option 2 if desired, but they can't be combined with Option 3.

**PROVIDE GUIDANCE TO THE
PLAN DEVELOPMENT TEAM ON
DRAFT MANAGEMENT OPTIONS**

MS. STARKS: For next steps today, the Board will discuss the PDTs recommendations on Draft Addendum XXVII, and provide some guidance back to the PDT on the goals, objectives and priorities, and then also provide any feedback on the Draft Management Option.

Then following today's meeting, then Technical Committee plans to provide additional analysis on the impacts of management measures to the PDT, and the PDT will work on developing the Draft Addendum document, which will be provided to the Board for consideration for public comment at the August, 2021 meeting. That is the end of my presentation, but I figured it might be helpful to bring these discussion questions back up before the Board gets into conversations about the Addendum.

CHAIR McKIERNAN: Thanks, Caitlin, great presentation. Do you want to take questions at this time?

MS. STARKS: Happy to, yes.

CHAIR McKIERNAN: Okay. Raise your hands.

MS. KERNS: Dan, your first question is from Colleen.

CHAIR McKIERNAN: All right, Colleen.

MS. COLLEEN BOUFFARD: Caitlin, thanks for that great presentation. The question I had was, did the PDT have any discussion about what they expect having standardized measures would be on the ability to determine what the response was to different management measures, should they be implemented when a trigger is hit?

MS. STARKS: I don't think the PDT had discussions this time around on that. But in previous PDT discussions, before the Addendum was stalled, I believe that the understanding

was that if you have standardized measures in place, it is easier to project impacts and see effects of changing those measures, with the way that the stock assessment uses the data. I think it would facilitate that.

MS. BOUFFARD: Okay thanks, that is what I would have thought.

CHAIR McKIERNAN: Toni, anyone else?

MS. KERNS: No other hands at this moment. Now we have one, Jason McNamee.

CHAIR McKIERNAN: Go ahead, Jason.

DR. McNAMEE: We're still in question mode here, so I was wondering, I think this is for Caitlin. You know some of the approaches, you know with the indices or the abundance, you have these kind of time series of information. I was wondering if the PDT, and I apologize. It seems like some of what I'm about to say was kind of implied with some of the things. But I just want to sort of ask explicitly.

One thing you can do with a time series of information is, you can pick a certain number of points to go back, so say you want the last three years. In particular this is important with things like indices that have variability in them. But you can pick those three points, and then basically put a regression line through them. You can kind of get that this proactive/not proactive concept, where if you did that and you allowed the regression.

If it's positive that means the index is going up, which for the ones we looked at is generally good. If the slope of that regression is negative, then you're getting into a bad spot. But to go from positive to negative takes a couple of data points to kind of drive that regression down. Did the PDT look at anything like that for some of the indices in the abundance information, so using a regression to determine whether things are going in a good or a bad direction?

MS. STARKS: Yes, the Technical Committee did talk about that, and kind of what I was bringing up with the rate of change idea for defining a trigger. I can let

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Kathleen give some more detail, perhaps, but it was described by the TC, and I think it is something they are still considering. Kathleen.

MS. REARDON: Sure. We did look at that for ventless trap indices, looking at a regression rather than rate of change. But a regression really depends on the number of years you choose. It's very sensitive, like just adding one more year, it's very sensitive to what that slope might be, looking at some of the information from Southern New England after 1997.

Looking at the rate of change in some of those indices was helpful in looking at kind of magnitude. In that having a kind of smoothed median, you're able to smooth the trend, but looking at the rate of change, I think that the Technical Committee had come to a consensus that that may be a better metric than a regression.

DR. McNAMEE: Great, thank you both very much.

CHAIR McKIERNAN: Kathleen, if I could follow up. Are we talking about using three-year moving averages or not in some of these indices?

MS. REARDON: That actually is a question for the Board. Three years is what we looked at, but I think that we were playing with numbers that were smaller than the interval between assessments, so three or four years, those are the numbers that were thrown out.

MS. KERNS: Mr. Chairman, you have Cheri Patterson and then Sarah Peake.

CHAIR McKIERNAN: Great, all right, Cheri.

MS. PATTERSON: Maybe this kind of relates to, I'm not sure, it relates to what Jay just asked. Looking at standardizing some of these measurements, and I'm talking more about the size of the lobster, the gauge. If we're seeing or concerned about population decreases right

now, and now we're talking about possibly standardizing gauge measurements. How can that be mitigated through smoothing effectively, to assure that we're not looking at some sort of change due to the gauge changes and not due to the population concerns?

MS. STARKS: I'll take a first stab at answering that. I guess my first answer is changes to the gauge size would not be implemented until these trends in the indices are observed. Those trends would be unrelated to changes in the gauge size. After that point then yes, you may see some changes. The trends may be affected by increased minimum gauge sizes for example, leaving more lobsters in the population. Before you get to any trigger though, those indices are just coming from environmental effects, since we're not changing measures at all.

MS. PATTERSON: Okay, thank you.

CHAIR McKIERNAN: Sarah Peake.

REPRESENTATIVE SARAH PEAK: Thank you, I think my question is somewhat related to Cheri's, and it is regarding the proposal of the standardization of gauge and V-notch measures across the LCMAs. I guess the question is, is the driver for this, or are we doing this because the stock status across Gulf of Maine and Georges Bank is in a similar situation, so that we are required as a management measure to look at gauge size, as a way to rebuild or to keep the stock at a healthy level, or is this driven by a convenience of enforcement?

As this proposes kind of a second part of the question is, as this proposal was being drafted, do we have any data yet as to the actual impact out on the water, in terms of the effects on the, well I'll just say it. The outer Cape lobstermen's haul and what percent of their catch would be impacted by it?

I think those would be important things to know. I will just say editorializing, that I think that between reducing vertical lines in the water, dealing with offshore wind projects that are coming down the pipeline, dealing with COVID-19 and the closure of

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most restaurants, and trade deals with Asia having disappeared.

I feel like lobstermen up and down the coastline, have been kicked in the teeth, and through much having nothing to do with their own practices or what our rules and regulations are. I would sound a cautionary note that we take a look at these in a very hard and a very careful manner, to make sure that the unintended result isn't irreparable economic hard that we are perhaps starting the ball rolling on here with our actions. Thank you.

CHAIR McKIERNAN: Thank you, Sarah. Toni, anyone else?

MS. KERNS: We have Jason McNamee.

CHAIR McKIERNAN: Go ahead, Jason.

DR. McNAMEE: Back on the notion of how many years to check for, you know whether it's a regression or their technique that Kathleen was talking about. My question. Kathleen, I think it was you who said, you look back at, maybe it was Caitlin, I'm sorry I just can't remember. You said you looked back at Southern New England, and that kind of drove some of the information you were using for these analyses. I think that's great.

My question is, just kind of drilling into that. Was the proposal of three years driven by that? In other words, would three years have picked up, you know the negative signals in Southern New England, picked them up quicker, and so that's why we're suggesting it here, or am I connecting two things that you all didn't connect?

MS. REARDON: I think I may actually defer to Jeff Kipp on this one, because he did the analysis, and he may be a better person to answer the question.

MR. KIPP: I think the idea of looking to Southern New England was not really being too

clear on what rate of change in Gulf of Maine might be troubling. We were thinking of looking to Southern New England as sort of a case study to relate back to Gulf of Maine, if we saw a rate of change in Gulf of Maine indices that was as fast or faster than what we saw in Southern New England during the period of stock collapse.

That that might signal a greater concern, whereas if the rate of change was much less there was a more gradual change, that that might signal concern, but not to as great of a degree. I think that was the idea of looking to Southern New England data.

DR. McNAMEE: Oh, okay I got you, Jeff, so it was about the magnitude of the rate, rather than kind of then connecting that to sort of assemblage of years used. I think I got that, thank you.

MS. KERNS: I don't have any other hands, Dan.

CHAIR McKIERNAN: Okay, so I am going to beg the Board to have some really substantive conversations now, as much as possible to maybe reach some consensus views on some of these issues, because the PDT, but especially the TC, can get very frustrated with us as a Board when we don't give them clear guidance, and then they do a whole bunch of analyses, and we don't really signal to them where it is we wanted them to go.

The first bullet on the board is objectives with regard to the biological resiliency of the stock. Can we have a conversation about that? I assume that that means, maybe start the conversation by saying, I assume it's to maintain a very large amount of spawning stock biomass, so that should there be an environmental effect, affecting young of the year survival, that there are enough spawners in the years when the environment may swing positive, and we can have a stock going forward.

I'm not sure the Southern New England example, I know that is what is haunting us. But I'm not sure it's going to be replicated in the Gulf of Maine. But clearly, we have seen reductions in young of the year values for the settlement indices. It's starting to show up in the ventless trap survey as 5, 6, 7-year-old

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lobsters are now showing a negative trajectory. We need to tell the TC and the PDT what it is we want to achieve with this Biological Resiliency Addendum. Can I get some conversation going on what constitutes success?

MS. KERNS: Dan, you have Pat Keliher, Jason McNamee, Mike Luisi, and Cheri Patterson.

CHAIR MCKIERNAN: I'm sorry, so it's Pat, it's Mike Luisi and Cheri.

MS. KERNS: Pat, Jason, Mike, Cheri.

CHAIR MCKIERNAN: All right, Pat from the great state of Maine, where 90 percent of the lobsters are landed, please weigh in.

MR. KELIHER: There is obviously a lot here with these questions. I've got pages of notes scattered all over my desk that I wish were a little bit more focused, because I think some of my comments lead into many of the four bullets that are up here. First, I just wanted to say that I appreciate the focus of the TC and the PDT to move away from economics.

I've raised the economic issue several times. All you have to do is look at the volatility, and compare 2012 to what we're seeing for boat prices over the last several months to know that the use of economics as a management tool here, I think would be very complicated. I think we need to focus on the biological side of this issue, and kind of drill down into what we need to do here.

As far as stock resiliency, stock health, how large the stock should remain. I was thinking back on Southern New England again, wasn't at the table at the time. But it seems to me that the management board was always trying to play catch up when it came to putting things in place, and we need to avoid that.

I looked back, and thought a little bit more about the paper that was put out from GMRI in

regards to resiliency associated climate change, and Area 1A certainly would have benefited from the many conservation measures that we had in place. In order to continue to see some buffering during a down time, we're going to have to have triggers in place that recognize that we will see a down turn, because the triggers are going to be based.

I'm assuming we're going to end up with triggers that are going to be in the out years here, so we will start to see some level of decline. I realize what that level is really what the question is. I think we need to develop some trigger mechanisms that one, take into consideration a rate of change, and I've been thinking around a 20 percent mark over a three-year period. Then beyond that, I think it's about the regime from high to low. You know we may need a second range or a second level of triggers, as we start to move out of the high to moderate abundance regime that we are currently in now.

I've got some details around that for later, but I think from a goal perspective, we have to recognize that we will see some decline. To what level really becomes the question. I think we can get into that with some details, as it pertains to giving some additional guidance to the PDT.

CHAIR MCKIERNAN: When you talk about a 20 percent decline, you're talking about a decline in those annual indices that come to us from ventless trap and trawl surveys.

MR. KELIHER: Yes, exactly.

CHAIR MCKIERNAN: Thanks for that. Anyone else? We've got Jason, you're next.

DR. McNAMEE: I think my comments will generally align with what Pat just said. You know as far as the objectives, just to sort of put it in really simple terms, it seems like what we're trying to do is develop a system that allows us to react to changes in the stock, before it gets too late, or before the management that we would need to do would become very severe.

Smaller incremental changes, in the hopes that you know we could get a positive reaction, I think is what

we're trying to achieve here with this potential action. That is kind of potentially not very helpful to the PDT, but that is generally my sense of what we're trying to do, is to create a system that allows for smaller incremental changes when we are witnessing bad signals, rather than kind of letting things develop to a point where whatever it would be that we would need to do, would be really severe and damaging to the industry.

You know that is kind of my general thought on the first bullet there. I'm having a little, I was trying to tease out something to get at the second bullet here. I'll offer a couple of general thoughts about how proactive. I think in general we don't want to chase every little blip in an index, you know indices have variability.

They go up and down in any given year, and so we don't want to chase that single year change necessarily. That kind of gets at this notion of use of a regression, or how many years you might use in these types of analyses. It sounds like you've got to at least a lower bound. I think you would need at least three data points to react to, given the types of things that we're looking at here, and that's what the PDT kind of put forward. I think that's a good starting spot.

We might want to bound that with something a little longer, like I don't know, five data points, probably that might be too many, not reactive enough. But at least kind of guide us a little bit, and give us a sense of the tradeoff, because then what we can do, kind of like a retrospective analysis, so we can go back. Using Southern New England or whatever, and kind of look at oh, it would have taken you three years to react or you would have reacted in a year, you know that kind of thing. I'll park it there for now. Hopefully that gives folks something to think about.

CHAIR McKIERNAN: Mike Luisi.

MR. MICHAEL LUISI: I was just thinking about this, because Southern New England was kind

of the basis for, not the basis, but our stock has declined, as we have seen. They are concerned that it's going to move into the Gulf of Maine/Georges Bank stock. I'm just trying to figure out if management action, is it management that is going to help correct, or is out of our control?

It may have been mentioned during the presentation, but I know that in our area down here, you know I'm speaking for Southern New England. (We don't) have any harvesters anymore, but the stock is not growing, because of other environmental conditions. I'm just trying to learn a little bit as to what is happening in, or is there something. Do we think that management can actually, or are we just subject to what is happening as an environmental condition across our area? That is something I was thinking about while the presentation was happening.

CHAIR McKIERNAN: Okay thanks, Mike. We've got some rhetorical questions there, but they are good ones. Cheri.

MS. PATTERSON: I'm leaning towards somewhat what Pat and Jay have indicated. I think, as much as I would like to maintain the current levels of abundance in productivity, I'm wondering if we would be reacting quickly if we were moving in that direction. Whereas, if we looked at a rate of change over a period of three years, to kind of smooth out any bumps. I think we would be able to detect if there were changes that were needed in time or being proactive, I should say, as opposed to five years.

I'm not sure a five-year plan would be proactive enough. Definitely a single year change in anything would be detectable. That would be more of a reactive scenario. We wouldn't really be able to detect whether the changes were actually doing what we wanted them to do. Some parts I agree with Pat. I think we need to look at a rate of change over a period of three years, and 20 percent doesn't seem unreasonable to me.

CHAIR McKIERNAN: Yes, you bring up a good point, Cheri, about statistical significance, and I wonder, like the Ventless Trap Survey values have means and 95 percent confidence intervals. I guess we would want

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to make sure that the values were statistically significantly different from the baseline, or from the point that we're declining from.

You know because some of these surveys, especially ventless, they are firm. The funding sources are firm, but it's conceivable that funding levels could change, you know reduced effort might create a higher confidence interval, a larger confidence interval around the mean. I guess that is something for us. But I think the TC can work on that for us.

But I think it's important to give them the feedback. It sounds like the group has, or at least a few of you, have talked about a decline over a three-year period that is at least 20 percent, might be enough to trigger one of these management actions, notwithstanding Mike Luisi's open-ended question about whether or not these are environmentally driven, and may not be able to be controlled. Toni or Caitlin, is there anyone else with their hand up?

MS. KERNS: I think Kathleen wanted to respond to that, Dan.

CHAIR MCKIERNAN: Great, go ahead, Kathleen.

MS. REARDON: Thank you for the feedback Board members, but also, we're interested in where those abundance levels are where you want to take action. I think that Pat Keliher started getting at this, where he was thinking the transition between the current high productivity regime and the medium, and I am curious if other Board members are interested in that. I mean it's not just the three-year rate of change, it's rate of change to what level. That is feedback that we need to be able to recommend to the PDT.

CHAIR MCKIERNAN: Kathleen, would it be helpful to throw the, there you go, throw that chart up. Thanks. Do you want to repeat those concepts with this image?

MS. REARDON: Sure. The question is, so using for example, these reference points that were approved in the last stock assessment. If we were to have, this is something that we considered within the Technical Committee, that rate of change, like you could have three years that dropped 10 percent each. Cumulatively that would be a 30 percent drop.

Where that falls within these reference points is the question, but you may have a drop from where you are one year, and 30 percent the next year, and then 30 percent the next year. This is where we did look at that magnitude, looking at Southern New England and found that the drops, the rate of change were higher in magnitude than what we have seen in the Gulf of Maine indices.

But we are seeing more years that are dropping in the latter part of the time series for the Gulf of Maine, and so that is where there is concern. For the Southern New England, it was pretty much negative rate of change from, I think it was 1998 forward. But those numbers were lower than what we have seen in Gulf of Maine now.

But the proposal or the question for the Board is, at what level do you want to trigger management? We can look at rate of change, but it's also where is that threshold? Is it the dotted line, which is the fishery industry target? Is it something lower than that like maybe the 25th percentile of the median regime?

This is what we need feedback on, because if you are accepting that management may not be able to keep the population in the current regime at very high levels, then you may want to choose something lower. But if your objective is to stay in the current regime, in the current productivity, action may need to be more aggressive. I think that is what question we struggle with without guidance.

CHAIR MCKIERNAN: Kathleen, if I could, that's a great way to present it. But am I right that the indices that we might rely on are not this, because this is an abundance estimate that only comes out every five years? Are you suggesting that first we would have to find where we reside in the abundance level, and then use those parameters that do correlate with stock

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size, such as the ventless and the trawl survey annual indices to project where we think we are?

MS. REARDON: This is a question that came up during the peer review of the stock assessment, and so work was done to look at correlations between the model results and the annual indices that we came up with as an annual update for the Board. We think that we can rely on the indices to provide thresholds, that there is enough correlation between that and the model results.

CHAIR McKIERNAN: Is your question, is there a place on this graph that we can comfortably fall to without taking any action, and then once we get to that point and start to decline further, we should take action? Is that kind of the nature of your question?

MS. REARDON: Yes.

CHAIR McKIERNAN: Okay, because you're showing us that we're at a near all-time high, and I guess the implied message here is, is a decline to some lower level acceptable. Then, when should these kick in? Like, should it be a two-step process? First, we believe we're at a lower level of overall abundance, and then with the declining rates, do we need to arrest that with the management action?

MS. REARDON: Yes, and I think that is also where the PDT came up with the two different triggers, where you have one that is proactive that does one thing, and then another that would be later, if the population continued to decrease, then it would be more aggressive in the future, if you were to choose the kind of progressive management tools.

CHAIR McKIERNAN: Okay. Board members, anyone with your hand up?

MS. KERNS: Dan, you have Jason, Pat Keliher, Cheri, and Mike Luisi.

CHAIR McKIERNAN: Great thanks, Jason.

DR. McNAMEE: I hope I'm getting at the right thing here. But I would think under the premise that I noted earlier, that is the idea here would be to develop a system that allows for quicker and less draconian changes. I would think we would want that fishery industry target as, you know I think I'm understanding what Kathleen is saying, is how these things kind of interplay.

You have a late 20 percent decline, and you know that you're going to tip below the dotted line in three years, and we would initiate action based on that. We've got sort of the notion of how proactive do you want to be. Do you want to be within three years, and you've got your rate of decline to sort of get you to that threshold point?

Just to answer directly. I would think again, under the notion of we want to take action before we have to take really draconian action. We would want that higher line to be at least the first. It then seems like a pretty long drop; you know to get to some of these other limits. That might be something to think through. But I'll leave it there and hope that I was starting to get at what the PDT was asking.

CHAIR McKIERNAN: Pat Keliher.

MR. KELIHER: I think this chart, Caitlin could you follow your cursor down? I think you were in control of that, down the abundance line, down to where it crosses in from high into medium, right there. To me that looks like kind of the sweet spot, and maybe even a little below there for a second trigger if the first trigger is based on a 20 percent change over three years.

Then you could think of an abundance trigger that would be triggered somewhere in and around that particular area. I mean it's a further decline. It's still you know, I'm going to bring economics into it, but not for the sake of developing the trigger. But it still is at a time of high economic value for the fishery.

To me, I think it fits what Jason is talking about from the stepwise approach. We could have the PDT

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explore those options from an upper limit trigger that is based on the three-years, and then a lower limit based on abundance when you cross from both crossing the median regime into the moderate regime.

CHAIR MCKIERNAN: That's a good suggestion. Kathleen, is that the kind of feedback that you're hoping to get?

MS. REARDON: Yes, I think that that is kind of a threshold. The three year, I just want to be clear that the three year is not, okay three years from now we're going to do something. It's three years that show a decline. If we were to choose where the point is right now on the figure, to say that the, I don't know what percentage, decline that is from where we are right now, let's say 40 percent decline. It's not that. That we look at an average over three years to look at the percent or rate of change over three years, and if we have hit.

It's kind of like the status of the stock within the stock assessment. We're always looking at three years, a median of, in the stock assessment I think it's an average of three years, and I think here we're proposing a median of three years, and to figure out where our status is. The question is, okay what is the appropriate amount of years that we need to look at, to look at where our status is? But then what is the threshold of triggering action? Does that make sense?

CHAIR MCKIERNAN: I think so. Cheri Patterson.

MS. PATTERSON: I would like to be more conservative than looking at the current area, and leading into the moderate abundance regime. I would prefer to see a threshold further up, so that we will be taking faster action if need be, and in hopes that we could be taking slower proactive actions over a period of time.

I think when we start looking at this, we're going to see that things are going to be

triggering pretty quickly for some minor actions to possibly be taken, so that we're not hitting that trigger in a quick fashion. I think we're already seeing decreases, declines. When we're going to be probably taking minor actions before we even hit this trigger.

MS. STARKS: Can I follow up, Mr. Chair?

CHAIR MCKIERNAN: Certainly.

MS. STARKS: I just wanted to clarify Cheri's point. Cheri, on the screen right now I put two circles around different kind of thresholds of abundance that the Board is thinking would be good to serve as triggers for management. The first, the higher one would be a more conservative level, like you were just describing, that is the fishery industry target.

We would be estimating reaching that fishery industry target abundance by using an index of a proxy. Then the lower one could potentially be a second trigger, in addition to that first one. They wouldn't necessarily have to be one or the other at final action. Is that kind of consistent with what you're looking for?

MS. PATTERSON: Yes, as well as minor actions even before we hit the fishery industry target, potentially.

MS. STARKS: Just to further clarify, I want to go back to the options that I described earlier. This slide, just so we can think about this as they relate to kind of the draft options that the PDT put together. That second option there, standardizing some measures would be, that group would be something that is not necessarily increasing resiliency, but would be implemented to resolve inconsistencies at the end of final approval.

Then Option 3, I guess we'll think about Option 4. That is the one, where standardized measures would be implemented upon reaching Trigger 1. If you're thinking as Trigger 1 as being a higher level. Is what you're saying you want another option that is to do something to standardize measures even sooner than that?

MS. PATTERSON: If we're detecting a rate of change up at 20 percent over a three-year period of time, yes.

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MS. STARKS: Okay. I think I understand, and I think my thoughts, and Kathleen, please feel free to jump in, is that that 20 percent right now is a little arbitrary, because we haven't calculated like what the percentage of decline is that the TC. We can calculate this; it just hasn't been done. But what rate of decline would it take to get to that fishery industry target. I think it's probably more than 20 percent, like you're saying. Okay, we can think about having something in there that is a little more reactive as well.

CHAIR MCKIERNAN: Okay, Mike Luisi.

MR. LUISI: I think some of the questions that I had have already been answered, so I'm going to pass at this point, and we can move on.

CHAIR MCKIERNAN: Yes, so coming back to Kathleen. I guess as I think about how this actually would be executed, I have a little bit of, I guess nervousness, that we're looking at the estimate of abundance, which does come out of the stock assessment. I just want to make sure that the indices are reliably going to forecast the new abundance if we're between stock assessments. In other words, I see that those two circles that Caitlin put on the screen, and they all look really logical.

I just worry that between stock assessments we're going to be relying on a couple of parameters that I'm not sure how well they actually correlate. Not that I want to kick the can down the road, but I want to make sure that when we do get to that, we feel really confident that yes, it's time to pull the trigger.

MS. KERNS: Dan, you have a couple new hands up, Pat, Ritchie White, David Borden, Tom Fote, you had your hand up, you put it down, and then Jason your hand is up. I don't know if it's a new hand or an old hand.

CHAIR MCKIERNAN: Okay, go ahead, Ritchie.

MR. WHITE: Could we put the slide up that shows the triggers, the two circles for the new triggers? Okay yes, thank you. I'm trying to understand how this unfolds. Example: let's say that next year, which we know will not happen, but let's just say that it drops to the first trigger that's circled.

Then we would continue two more years on, to see what the average of that, if that continues to stay at that level. Let's just say it stays at that level. Then that would kick in mandatory change in regulations. How fast then, do those regulations take effect? If it props next year, how many years before new regulations are in place?

MS. STARKS: I guess first I want to clarify that the options as drafted are currently set up in a different way. It wouldn't be that we would get to the first one and then wait to see what happens, and then take management action. It would be at the first trigger; one set of management measures would be implemented at that point.

It would maybe be a less aggressive set of management measures, like Jason McNamee brought up that maybe it would be a minor reaction to try to provide some increased resiliency to the stock at that higher level. Then if you drop even lower to the second one, there is another trigger in place with another set of management measures that would be implemented. Then to answer the second part of the question about how long it takes after you get to that point, I think it depends a little bit on the timing of when that happens.

We're planning to have these annual data updates, probably in the fall around the time that we go through the FMP review. I think it depends on how quickly the states can change their regulations, so I don't know if I am the best person to answer that. But I would guess maybe for the next fishing year, maybe it would have to be one year later.

CHAIR MCKIERNAN: David Borden.

MR. BORDEN: In terms, this is a question, and then maybe a comment. In terms of the indices that are being talked about, we're talking about a composite of

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the Mass, New Hampshire, Maine Survey, the Federal Survey, and the Ventless Trap Survey. Is that what we would be using for indices?

MS. STARKS: The Maine and New Hampshire Trawl Survey, the Massachusetts Survey and the Ventless Trap Survey.

MR. BORDEN: Okay, and the Maine, New Hampshire, Massachusetts Survey has not, that composite survey. It is an existing survey, but has a composite of it ever been developed? There was some phrase in some of the minutes about Burton would need to work with technical people on the development of that. Is that correct?

MS. STARKS: I think Jeff actually did take a stab at combining those indices already, so we have something that the Technical Committee had looked at. Jeff, if you would like to speak to how much additional work may need to be done, that might be helpful.

MR. BORDEN: Okay, and then the follow up question is, will that have to undergo some kind of peer review, or are we going to just use it based on the technical review?

MS. STARKS: I think the idea was to just use it based on the technical review, and not have a peer review process for that.

MR. BORDEN: Okay, so the comment, Mr. Chairman, I mean I support in general this comment, the concept moving forward. I have some concerns about the timing of it. I just harken back to what I said at the last Board meeting, which basically, and I'll keep this short, is that once you start to manage a declining stock, it becomes much more difficult, because the regulations inflict on the industry, and I'll give you a specific example.

If we wanted to do a gauge increase, and that would have a direct impact of removing, say 6 to 9 percent of the landings due to the gauge increase. If the stock is declining at 7 percent a

year, and then you impose that regulation on the industry. It almost doubles the negative economic consequences to the industry.

I think one of the lessons from Southern New England was, we didn't get out ahead of this fast enough, and the time to implement regulations is now, as opposed to when the stock declines. Because if you're really concerned about minimizing the impacts on the industry, then you should make changes now, as opposed to when it declines, they just accumulate and accelerate the negative consequences.

I guess my point in all that, I could see kind of us getting some resiliency out of changes in the regulations by standardizing some of the components of the existing regulations, while we work through the two triggers which are still. I don't know how we're going to develop these two trigger points, and all of the specifics between now and August, I guess is my concern.

CHAIR MCKIERNAN: Yes, I hear you. Jason McNamee.

DR. McNAMEE: Sorry, Mr. Chair, my hand was up by accident last time, I put it down.

CHAIR MCKIERNAN: Okay, Pat Keliher.

MR. KELIHER: A couple things. I want to just follow up on David's point. I don't have any illusions that we're going to have a document necessarily ready to go out to be approved at the next meeting. However, if we could get to that point, I certainly wouldn't mind that. In general, I would like to see us prioritize stock resiliency over standardization of these measures.

However, I think there are things within standardization that we could do, that would be more immediate upon the approval of an addendum. Right, some of the lower hanging fruit to get at what David is talking about. After time with staff, I'm not sure, depending on how far we go. I'm not sure how much of a buffer that gives us from a resiliency standpoint.

That is something to think about, but certainly from a prioritization standpoint, I would prioritize resiliency over standardization. Again though, with the

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understanding that some of those standardizations could be put in place sooner rather than later. Mr. Chairman, if it helps, I did send Caitlin three motions, and I don't want to put this motion up with the intent of making it a motion. But I worked with staff to try to pull some thoughts together around triggers.

I think it might get to what Cheri in particular is talking about, because it would be a stepwise approach. A little birdie is telling me we may be, even at 20 percent we may be very close to that fishery industry target now. We may want to consider something a little bit larger, maybe closer to 30.

I'm not sure, or maybe we need to have a couple ranges, a range of options developed by the PDT. Then maybe something a little bit different when it comes to that lower target. But I did have a motion put together, and if helps clarify things to move us along, maybe Caitlin could put that up on the screen.

CHAIR MCKIERNAN: Okay Pat, that sounds good. The other thing while she is doing that that comes to mind for me is, it is 3:15 and I know there is no other ASMFC business scheduled after this meeting, so we can continue this conversation. But I just wonder if some of this could be accomplished by a subcommittee, especially those who have taken a really active part in this discussion, and whose support will be critical to implement some of these going forward.

That is another option, because I'm personally getting a much better understanding now, with Caitlin and Kathleen's detailed explanation. But I do have a concern about the triggers, and how they will work, and not be inadvertently triggered, or not be so slow that they're meaningless. Let's take a look at your motion, Pat.

MR. KELIHER: Yes, and again, I'm not sure if we need to make this as a motion, as long as there is agreement from the states that this seems to

be like the right approach. But the idea was to get the PDT to do some further exploration on an upper and a lower trigger. The reason I thought it would be valuable to put this up on the screen, is just to show some examples around minimum gauge sizes within LMA 1.

Again, it would be a stepwise approach. The question would be, is it 20 percent, is it 30 percent? Is that line between the high and moderate regimes the right spot? Does that need to be lower? Maybe those are some of the things that the PDT can help us explore, but this was my intent.

CHAIR MCKIERNAN: Any comments from the Board?

MS. STARKS: I just have one note that I'm seeing a difference in what was discussed and what I heard from most of the Board members about the lower trigger being where the change is from the high abundance regime to the low abundance regime, rather than the abundance limit. To Pat's point, I think it would be helpful to have discussion about whether you want us to consider a trigger, as low as the abundance limit or not, or if you would rather have it be higher.

MS. KERNS: You have David Borden, Dan.

CHAIR MCKIERNAN: Go ahead, David.

MR. BORDEN: Pat, I know you're not making the motion at this point. But on the 20 percent over three years. If we have three indices that are part of this, all three have to go down by 20 percent, or are you talking about just one going down by 20 percent?

MR. KELIHER: I was thinking of it being cumulative, which could be 20 percent over all. But you know I'm certainly open for that. I'm not sure we should be using just one, just because of variabilities from year to year, so cumulative across the three indices would probably be a better approach.

MR. BORDEN: Okay, thank you.

CHAIR MCKIERNAN: Pat, in light of the questions I was asking earlier. Isn't the abundance parameter going to

be forecasted through the use of these time series surveys? The currency will still be, where do we lie on that abundance time series as forecasted by the ventless trap and fishery independent trawl surveys.

MR. KELIHER: I think you're right, Dan. As I'm thinking about it, I mean you would hit the first trigger and then you would be looking at what those forecasts would be, and then to make a determination on how that next trigger would be pulled. Is that what you're saying?

CHAIR McKIERNAN: Yes, just a 20 percent drop in ventless trap, because let's remember, there is ventless trap in Mass, New Hampshire, and Maine, and there could be regional variability. I think it all has to go into, it's like an overall bottle to look at the Gulf of Maine stock. It has to be, I think combined, and maybe Jeff or Kathleen can speak to that. Like what is the vision of how these surveys feed into a model that just spits out a number and shows us where we are in the trend graph, the abundance trend graph.

MS. REARDON: I think I can speak to that, Dan, and Jeff can weigh in if I don't get it all. But already in the last stock assessment, we have a single model for ventless traps that combines the whole region for the Gulf of Maine/Georges Bank stock for the ventless trap. Then the proposed.

Well, we had to go a little further than the stock assessment did, is combining the two inshore trawl surveys of the Massachusetts Trawl Survey and the Maine/New Hampshire Trawl Survey, combining those into a single index. Those are the same ones that we would look at as a proxy for the abundance results from the model.

CHAIR McKIERNAN: Okay.

MR. KIPP: This is Jeff, I could just add a comment. If we were to use both the ventless trap survey index and that combined

Mass/Maine/New Hampshire Trawl Survey Index, that would still leave us with two different time series that we currently have not combined, outside of the assessment model into one sort of indicator, and one index. That would be something we would have to explore additionally if we wanted to figure out some way to do that, aside from looking at them individually as two different data streams.

CHAIR McKIERNAN: Because if we don't then we're dependent on the stock assessment and peer review to tell us every five years where we lie on the trend, without being able to do anything in the interim, right?

MR. KIPP: Yes, we do not have a mapping of these outside indicators to the reference abundance estimates from the model. There still needs to be some work done to try and come up with that mapping from the individual indices outside of the model, to the reference abundance estimates inside the model that we use to compare to the reference points.

CHAIR McKIERNAN: Jeff, do you and Kathleen and Caitlin feel that we could give you enough guidance in this conversation or soon to end, so that you can develop this, or would you like to have more back and forth with like maybe a subcommittee of those who are really active in this discussion to get a better handle on the mechanics of how this will work? It is one thing to talk about the general ideas, but I just wonder if the mechanics are as important as kind of the goals. What do you think?

MS. STARKS: I do think, you know the discussion questions that the PDT and TC put forward were intended to get that guidance that they needed. I think they have a handle on how to make those things work mechanically, once we have an idea from the Board of kind of what levels of abundance you're hoping to maintain, and how much of a drop you're willing to tolerate before taking action.

Questions like that help the TC be able to better define triggers that would be appropriate, to make sure that we're meeting the goals. Does that make sense? I guess I would suggest, I think if the Board is

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in agreement on the issues or the suggestions that have been put forward, then I feel like the TC and PDT can take that information and turn it into appropriate triggers.

But if there is not agreement on like the levels, then maybe we should have another couple of minutes of back and forth. But if everyone kind of on the same page as what has been said already, then we may be at a good point.

MS. KERNS: Dan, you have three hands. I don't know if that is to Caitlin's question or not, because they have been raised. But you have Cheri and Tom. The other hand went down.

CHAIR MCKIERNAN: Cheri, go ahead.

MS. PATTERSON: Pat, I almost think I was looking at three tiers, where we're all pretty concerned about what rate of change is happening over the last three years. If the assessment is inclusive of the Maine/New Hampshire/Mass Trawl Surveys, we have at least a spring gap out of those surveys from last spring, right? Massachusetts, did you guys operate in the springtime with your trawl survey?

CHAIR MCKIERNAN: Not last year, but we're doing it this year.

MS. PATTERSON: Yes, so we have a gap that I don't know how that is going to be filled without retroactive thoughts in our future. That is where that first tier for me is, is looking at what we're going to be doing probably right off the bat. Then looking at that rate of change, if it hits the, what is it the fishery something, the dotted line.

I forgot what the dotted line was, and then down to your lower trigger, being that abundance level that separates the high to the moderate abundance regime. I'm not sure on this last sentence, where you're saying triggers could be associated with stepwise changes to gauge sizes. How quickly can we determine if gauge sizes are effective?

Would that be something that we could determine within three years, or is that something that you kind of see within a year, within two years? I guess I would be a little cautious on that last sentence. But the PDT might not even need that, if they feel that they can go with what our conversation has been up to this point.

CHAIR MCKIERNAN: I'm seeing some edits to the consensus statement on the screen.

MS. STARKS: I just wanted to put it on the screen, to make sure I was capturing what Cheri's suggestion is, and have the Board give some feedback on that as well.

MR. KELIHER: Mr. Chairman, could I ask a question to that last point that was made by Cheri? Cheri, what types of actions were you considering? I mean obviously a gauge change is going to be disruptive enough. But if you had three, depending on the rate of decline, three-gauge changes could be incredibly disruptive.

I mean, just the time alone to implement, you know put new gauges out. That alone is going to takes some time. I'm just kind of wondering what you're thinking about. Would it all be around a gauge increase, or would it be other types of management actions?

MS. PATTERSON: Mr. Chair, can I answer?

CHAIR MCKIERNAN: Yes, please do.

MS. PATTERSON: I was looking at all of the options available to us. Gauge changes is one of the options, I'm not discounting it. I'm just saying that that shouldn't be the one and only one that we consider.

MR. KELIHER: Yes, okay. That's very helpful, thank you, Cheri, I appreciate that.

MS. PATTERSON: Thank you.

CHAIR MCKIERNAN: Tom Fote, did you want to weigh in?

MR. THOMAS P. FOTE: I'm hesitant to weigh in. I've just been listening to this for a long time, and listened

to what Mike Luisi said quite well before. My concern is the survey. Do they take bottom temperature when they are doing the surveys, to see what the difference in temperature is from one time to the other time they are doing the survey?

Because we know that water temperature is what is going to basically do us in on lobster, like it did in the Southern New England stock. I know, and I don't see it is anything but a declining stock until we basically turn that around. I don't see us turning it around in my lifetime. It's just frustration, and I'm listening to conversation. Basically, I'm saying, well we take measures, but do we really do anything to stop this, which is what Mike asked a long time ago.

I mean I saw it with surf clams, and we lost the surf clams in New Jersey, because of water temperature. When we basically are having problems with bluefish, we're having problems with weakfish, problems with winter flounder. Some of it is depending on water temperature. There are other environmental factors going on, and we could only manage fish, and this is a real problem we get into. That's all, I just was listening to it and I had to say something.

CHAIR McKIERNAN: Okay thanks, Tom. All right, so Caitlin, is this a helpful enough set of guidance that the TC and PDT could do some business with, in terms of crafting a draft addendum?

MS. STARKS: I guess I have a few questions. I'm going to pull this slide back up with the overview of the options that the PDT drafted, because I just want to remind folks of what is in those. This option, Option 2, is kind of what Cheri was suggesting with her first tier of immediate management action.

These would be measures implemented upon final approval of the Addendum, and the measures that are being considered under that option by the PDT are these. This second option, standardizing measures upon final

approval of the Addendum. What is included in that is implementing standardized measures within LCMAs, so those are at the inconsistencies for outer Cape Cod with maximum gauge size, and the V-notch definition and requirement.

Then also, the option to implement standardized measures for V-notch requirements across LCMAs, and another option to implement standard regulations for the trap tag replacement issue. Those were the only measures that were being considered for implementation at final approval of the Addendum. I guess I want to ask if we should be considering maximum/minimum gauge size changes in this as well.

MS. KERNS: Dan, you have two hands up, Cheri and Roy Miller. Then once they are done, I might have a suggestion for you all.

CHAIR McKIERNAN: Okay, let's go to Roy Miller first. We haven't heard from you, Roy.

MR. ROY W. MILLER: I just wanted to make sure I understood the three bullet points that were at the bottom of the draft motion there. Could we go back to them for just a second? There they are. Number 1, immediate management action, would be what we were just discussing. In other words, what standardization would take place immediately upon approval of the Addendum.

Number 2, the 20 percent trigger would take place once we have a data point three years hence from that last data point that was in Figure 1 or the 2016 to 2018. That is my understanding of it. When it drops 20 percent below that data point over three years, for our composite abundance indices, the three indices, a composite abundance index.

Then a management response would be triggered. Then finally, if the abundance trigger drops to the moderate abundance regime, where the circle crossed in the lower level there of Figure 1. That would trigger yet another management response. Am I understanding what was proposed correctly? I realize I'm out of the area of concern here. But I think

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perhaps further definition might help all of us understand what is being proposed.

CHAIR McKIERNAN: That is my understanding. Caitlin, do you want to weigh in?

MS. STARKS: I think that was my understanding as well. I think one question I wanted to clarify was about that 20 percent decline, and make sure that you are thinking a 20 percent overall change from the black dot to wherever we are in three years, if that happens, and that would trigger management, or a 20 percent change every year for three years.

CHAIR McKIERNAN: Toni, you had a recommendation.

MS. KERNS: I guess it might be good to get that question answered for Caitlin. We do have Pat Keliher and David Borden with his hand up. But I will say this, and trying to keep us on some timeframe. I think it would be pertinent to make sure that the TC and PDT have enough direction to start getting moving on some issues.

If it's not the Board's intention or expectation to have a document approved for public comment in August, it might be good to have a group of Board members that we could lean on, as the PDT and TC work on the guidance given them. If they additional clarification or questions, we could bring those Board members into their meetings to provide specific guidance back to them. But that would be if the Board was okay with that plan. Again, you have Pat, David, and Ritchie with their hands up.

CHAIR McKIERNAN: Okay, I like the recommendation, but let's go with Pat first.

MR. KELIHER: I'm just trying to pull together the thinking around this to maybe give some greater clarity. What Cheri brought up I think could potentially combine really nice here, or you could have a Tier 1 trigger, which would be immediately standardizing some of the

measures. Then Tier 2 could be a percentage decline over the three years as you move from high to moderate regime, and then Tier 3 would be the abundance limit. You could have different types of management options to go. You know those aren't all, obviously, gauge changes. It may be a good way to kind of bring these two things together, to hopefully give the PDT a little bit more focus. Then I can withhold my other comment, Mr. Chairman, until we get back to the other slide that Caitlin had up.

CHAIR McKIERNAN: Thanks, Pat, David Borden.

MR. BORDEN: My comments are all on the immediate management actions. Do you want to hear those at this point, or wait until later?

CHAIR McKIERNAN: Yes, go ahead, I would like to hear that.

MR. BORDEN: Okay, I think that any consideration of gauge changes should be done in the Step 2 or Step 3, and I think that is what was just said. In terms of events, I think it makes some sense to consider standardizing the vent sizes. That, I would point, I mean one of the things that we found in Southern New England is that with the rebuilding a number of these finfish populations, you're much better off not bringing a lot of lobsters to the surface.

One way to stop that is to have the appropriate vents in them, so standardizing the vent I think would be a good addition to it. On the V-notch requirement, I support the concept of standardizing it, in order to make it effective. All you have to do is look at some of the tagging data that New Hampshire and Maine and AOLA put together.

These lobsters are moving all over the Gulf of Maine in various different directions, depending upon where you tag it. It makes sense to have kind of consistent regulations. In terms of the actual definition, I support the proposal of standardizing it. But I think states ought to have the right to be more restrictive.

I think in the case of Maine, their V-notch definition as I understand it, is more restrictive, and they should be allowed to keep that. That has been a provision that

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has been very popular with Maine fishermen. I just can't see us changing it, if they continue to support it. On the maximum size, I think it makes some sense to standardize it. But once again, if an area like Area 3 has a different maximum size that ends up being more restrictive, then I think that they should be allowed to keep it. Those are my comments, Mr. Chairman.

CHAIR MCKIERNAN: David, if I could ask a question. You talked about standardizing V-notch rules. It begs the question for me, coming from Massachusetts, because we have an area, Area 1, where V-notching is mandatory, the action of cutting the notch. Then we have a second set of rules about possessing what has been a V-notched lobster. Are you in favor of making the possession rules consistent, or are you in favor of making the requirement to notch consistent?

MR. BORDEN: The possession rule.

CHAIR MCKIERNAN: Okay, I think that needs to be clarified, because I think one of these options does talk about mandatory V-notching across LMAs.

MR. BORDEN: Yes, I actually have a question on that. But to answer your question, Mr. Chairman. You've got two different sets of rules in the outer Cape. You've got federal rules and then you've got state rules, as a general comment, they are inconsistent with the rules in most of the other areas. I mean these lobsters move tremendous distances.

If we vulcanize some of these management areas, there were good reasons to vulcanize some of these management areas, but if we're really looking forward, and trying to get a more resilient management program, they should be standardized. Some of this, I would point out, I think should be standardized down in Southern New England, so we have a consistent set of regulations that go all the way down into Southern New England.

CHAIR MCKIERNAN: David, before you sign off, what about conservational equivalency? From the way you just spoke, I'm assuming that you, and maybe other Board members, would not want to see some of these rules be allowed to have conservation equivalent measures.

MR. BORDEN: Well, my response is I'm generally in favor of conservation equivalency, but you've got to look at this issue in the context of the way it's being discussed. We want to stop the stock from declining. We need to be more conservative. One of the issues with conservation equivalency, and I'm sure we'll get into this with another species.

How do the rules in one state work, or detract from the rules in some other state? Do the rules all work together? I think if we want to be more conservative, in terms of stock management, then we probably want to put some constraints on conservation equivalency.

CHAIR MCKIERNAN: Thanks, David. Ritchie White, are you up next?

MR. WHITE: Yes, thank you, Mr. Chair. The answer to Roy Miller's question. Just clarification, because it sounded like it took three years to reach the 20 percent in the second trigger, if we go to three triggers. I just want to make it clear that if the 20 percent is reached in one year, then the trigger is activated. If at the end of three years it's 17 percent, there is no trigger, but if in the fourth year you go over 20 percent, then it's activated. Am I thinking this correctly or not?

CHAIR MCKIERNAN: Jeff and Caitlin, is Ritchie on to that? Is that how you see it?

MR. KIPP: I'm sorry, could you repeat? I didn't quite follow. If Ritchie could repeat that.

MR. WHITE: Sure. If we go over 20 percent in the first year, the trigger is put into effect. If we go three years and the average accumulative is 17 percent, then there is no triggering. Then in the fourth year then, if it goes to 20 percent, then it is immediately triggered. Is that a correct analysis?

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MR. KIPP: I think that is why we were looking at it as a median over three years. Instead of looking at even each individual year, we would calculate the rate of change from one year to the next, and then take an average of that rate of change, sorry median. If that median rate of change was 20 percent over those three years, that would trigger it.

MR. WHITE: Follow up, Mr. Chair.

CHAIR MCKIERNAN: All right, Ritchie, go ahead.

MR. WHITE: In my example then, the fourth year are we starting from scratch? Then you have to go three years to average 20?

MR. KIPP: No, then in that fourth year you would look back. You wouldn't start from scratch, you would look at the median over your four, three, and two. Does that make sense? In moving forward, we would look at a median over a year, whatever our current year is, and then the two years preceding that. Then when you go another year forward, you would look at the median over that current year, and the two years preceding that, so it's a moving median through three years of time. Does that help?

MR. WHITE: Yes, that helps a lot, thank you.

CHAIR MCKIERNAN: I guess Caitlin, we've made a lot of progress on this. I would still like to follow Toni's recommendation that we convene, like a little subcommittee, so that if there are questions as the PDT and TC come up with these specifics, if they could bounce these ideas off of a subcommittee. Toni, can you endorse that?

MS. KERNS: Dan, as long as the Board is okay with that. I mean I think it's an okay way to proceed. I just want to make sure that we can have more timely feedback to the PDT, instead of having to wait until August.

CHAIR MCKIERNAN: Right, is there any objections on the Board to the creation of a subcommittee of folks who are keenly interested in some of these specifics to be convened to give feedback to the PDT?

MS. KERNS: You have Pat Keliher with his hand up.

CHAIR MCKIERNAN: Go ahead, Pat.

MR. KELIHER: Mr. Chairman, I guess while I would like to kind of mole our way through some more of these, I understand the reason for wanting to do this, and so I won't object to it. I would like to have a goal in mind here of what we'll have completed for the August meeting. As I said earlier, I can see where this might delay us beyond August. But I don't want to come back to a Board meeting in August, only to debate these all over again, and put us out to October, or even into a winter meeting.

CHAIR MCKIERNAN: That's fair. We would still like to see a draft addendum at the August meeting. Is that what you're suggesting?

MR. KELIHER: I would like that to be the goal, Mr. Chairman, at last give it the old college try here.

CHAIR MCKIERNAN: Sure. Yes, I mean I think there were two clear challenges. One is, what are the triggers, in terms of abundance levels, and when do you pull triggers. Then, what are the actions. I think the group that has been involved with this discussion might be able to give recommendations to the PDT, so that when it comes out in a draft addendum, and it goes out to the public that it has a shot at being implemented. It doesn't create a huge amount of acrimony.

MR. KELIHER: Yes, that sounds good.

CHAIR MCKIERNAN: In terms of naming the membership of the subcommittee, should we just have folks volunteer to Caitlin, if they would like to volunteer for when we would have a conference call or a Zoom call at some point with the PDT? Is everybody good with that? I know I will volunteer. Pat, I hope you will.

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MS. KERNS: Cheri has her hand up, I don't know if that is to speak or volunteer.

MS. PATTERSON: Yes, thank you, Mr. Chair, a couple things. Yes, I would like to be on the little subcommittee, of course. But I also have a question, and Dave Borden, I'm kind of following up with something Dave Borden said. I don't need the clarity today, but I would like to have some clarity on lobsters that are in different habitats.

If we're looking at making all the gauge sizes the same, amongst all the LCMAs, I understand that we're managing for one stock. However, they are stocks that are in different habitats, and therefore it was my thought and understanding that there is variability in growth, variability in reproduction and such.

It's also my understanding that the lobsters that were tagged far offshore, while they moved, they moved more north and south and less east and west, or at least dramatically east and west, so that the ones that are offshore kind of stay offshore, far offshore. The ones that they don't generally, there are those exceptions, come to the inshore waters.

If we're looking at trying to standardize gauge sizes, I would like to have some clarity, and again, it doesn't have to be today, on the variability of gauge sizes that we have now, and the reasons why. It was my understanding it's because there are different habitats and different growth rates and reproductive rates.

CHAIR MCKIERNAN: Sure, Cheri, and I'm looking at some of the options in the draft document, and some of these options simply raise the gauge an equivalent amount in each LMA, and it doesn't necessarily make it a uniform gauge. That is an option that we could choose in the end.

MS. PATTERSON: Yes, I understand that and I am appreciative of those options, thanks.

CHAIR MCKIERNAN: I think we're done with this issue for now. We've got good information on the screen. We've got a commitment to have some members serve on a subcommittee, to give feedback and review to the Addendum as it's being developed. Are we good moving on from here, any objections to moving on?

MS. KERNS: Dan, I just want to, you know since I made that suggestion, I want to make sure that Caitlin and Kathleen feel that they have enough direction to get moving forward. But if they don't, then I think we need to give them a little more feedback.

CHAIR MCKIERNAN: Okay, Caitlin and Kathleen.

MS. STARKS: Yes, I think Kathleen has her hand up, so why don't we let her go first.

CHAIR MCKIERNAN: Go ahead, Kathleen.

MS. REARDON: One thing that was kind of conflicting in the comments that I've heard. Some people said, Pat Keliher said he wanted to concentrate on resilience, while Dave Borden and Cheri. Well, I think Dave Borden was really pushing for standardization. Hopefully, the subcommittee can weigh in on that, and that is more for the PDT to decide which options to put forward. But I did not hear agreement on where the Board falls on that question.

CHAIR MCKIERNAN: Personally, I think David Borden's suggestions about uniformity had more to do with within an LCMA. I don't know whether he was endorsing across LCMA uniform measures. David, do you want to clarify that?

MR. BORDEN: Yes, that's correct. I'm not trying to wordsmith this after the fact. I mean I think it's important. There are some measures that we have that are just totally out of sync, and I won't pick on any area, but they are totally out of sync, in terms of some of the other measures in an LMA. I think those are kind of the low hanging fruit.

I'm in favor of standardizing some of the measures, and to the extent we can do it, and it's not terribly disruptive to the industry. I think it works, even if we

go outside of the Gulf of Maine. If we have more standard regulations, I'm sure our enforcement partners will be a lot happier enforcing the regulations.

DISCUSS VESSEL TRACKING FOR THE LOBSTER FISHERY

CHAIR MCKIERNAN: Okay, so we're moving on, no objections? Next on the agenda is the discussion about tracking. Caitlin, I think you have a presentation on the issue of tracking.

MS. STARKS: Actually, we have a couple presentations, so we'll try to make it fast. We have Bill DeVoe and Anna Webb up first, and then I'll follow up with just a few slides. Maya, could you pull the presentation up, please? Bill, are you on audio?

UPDATE ON TRACKING PROJECTS

MR. WILLIAM DEVOE: I'm all set, thank you, Caitlin. Good afternoon, thank you, Caitlin, thank you, Mr. Chairman. Thanks for the opportunity to present today on some recent updates at DMR regarding vessel tracking testing in the lobster fishery. When I last presented to the Board in October, I gave an update on the various cellular tracking devices that DMR and DMF had tested as part of the ASMFC Electronic Tracking Pilot Project.

At that time our average tracking device cost was \$350.00 per device, with about the same amount per device recurring annually for cellular data. As of December, of last year, Dee Larson tested a new cellular tracking device, the Particle TrackerOne, which is offered significantly lower cost, along with increased tracking functionality. Particle was a company I had worked with before for some non-tracking technology, and they introduced a dedicated tracking device last summer. We are currently integrating the Particle TrackerOne with harvester reporting and other data streams. The TrackerOne is about \$160.00 apiece, they use a low-cost rate limited cellular plan.

These plans are based on usage, and since even a one-minute ping rate consumes relatively little data, compared with a typical cell phone, the plan costs are considerably less. One of the primary drivers of this lower cost is the fact that there are over 200,000 Particle devices reporting, versus this typically much lower numbers for many fishery-specific trackers.

This means that our initial device cost is cut in half, compared to the past devices we tested, and the recurring annual cost is one quarter of what it was with the previous tracking systems. In addition to the cost savings number comes an increased track in functionality as well. TrackerOne is run on the open-source software. They can be modified to add functionality beyond tracking.

They have an expanded port that supports many common electrical interfaces, and Particle now offers tutorials, and an active developers' online community. The Trackers are powered by USB or hardwired. Many of the trackers we worked with in the past had to be hardwired to a circuit breaker on the boat. USB is a great option, and Particle Trackers set up quickly.

Harvesters can use a regular cell phone adapter to power the Tracker, versus having a lot of cable down below deck to one of their circuits. The Tracker also has a backup battery that can continue to power the tracker for over a day after power is removed. The devices are waterproof, but they seem to work fine from the wheelhouse. All of our deployments are currently just on the dash of the wheelhouse.

DMR is currently testing 5 TrackerOne's. At the right is a picture of one of these trackers, they are a little bit bigger than your typical wallet. DMR has contracted Bluefin Data to develop a harvester reporting global app that will meet federal reporting requirements for all fisheries.

We are integrating data streams from the TrackerOne with this app. As of Friday afternoon, our TrackerOne deployments are feeding data in real-time to BluefinData. We just had a boat come in around two o'clock, that is successfully offloaded. Their trip location is at a one-minute ping rate.

As harvesters who have TrackerOnes on their boats test the vessel app in the coming months. Their location data will be sent to Bluefin to be submitted to ACCSP, along with their harvester report. Since the TrackerOne is always on when the vessel is powered, there is no need for the harvester to have their phone or other mobile device running for the duration of the trip. Additionally, if they forget their phone at home, or they start their trip report after leaving port, the track is already being recorded. On the right of the slide, you can see the screenshot from the VESL app of the trip report being submitted.

As I mentioned a few slides ago, TrackerOnes run on open-source firmware, so at DMR we made some custom modifications specific to the lobster fishery. The first was out in the Bluetooth interface. The tracker is constantly transmitting its own unique ID, so that the VESL mobile app can detect which tracker a harvester is using, and associate this tracker with their VESL account. This solves the issue of what boat has what tracker, and it also allows the VESL app to use the basic troubleshooting of the tracker status.

For example, if I mailed a fisherman the tracker, and there was no cell service at the dock where they typically tied up their boat, the VESL app would detect that by connecting to the tracker. Additionally, we are testing Bluetooth gear tags. During the ASMFC funded pilot project, we tested out gear tags for our company's Succorfish that were trying to integrate similar functionality for a lower cost.

We set up a TrackerOne to detect the unique idea of these tags, as they transit on and off the vessel. The tags can be used as trap or end line tags, or in mobile gear like auto trawls or scallop dredges. The tags are about \$20.00 apiece. Battery life should be at least five years, although it might be as high as ten years.

There remain some questions about how the production of these tags would scale up. The

software side is set, we're working on dealer tests in the coming weeks to determine the efficacy. Lastly, privations, DMR we tested out, didn't deploy the option of a button board to allow events on the vessel to be sent back with the tracking data.

It was a more of an option for specific research projects, not suite wide. Additionally, we're investigating the requirements for VMS type approval, to try to help ease the adoption of these trackers. This comes fully recognizing that DMF devices traditionally offer much different functionality than most cellular-based trackers. The type of approval process may be incompatible with these newer tracking systems.

Right is the screenshot for vessel, the current method of capturing fishing location. Future integrations on work, Bluefin has added a map interface to the vessel reporting app, such the harvesters can view their own tracks. Eventually we'll be creating an administrative interface to view all vessels, and to probably do some fishery statistics, heat maps and so forth.

There are many possibilities for integrating environmental data streams from sensors in traps around the vessel. An example would be temperature loggers in traps, so that when the other traps are pulled, the bottom data got uploaded. The Tracker could almost be a hub to transmit these data streams back to shore.

We also talked about integrating the TrackerOne with the plotter or computers on the vessel, to show the position of gear, and allow some two-way communication similar to some VMS devices. That is my update from DMR, I think Anna is next, and then Caitlin will do some questions after that. Thank you.

CHAIR MCKIERNAN: Who is up next, is it Anna Webb?

MS. ANNA WEBB: Yes, can you hear me?

CHAIR MCKIERNAN: I can, yes, go ahead.

MS. WEBB: We're doing a very similar pilot, but through the ACCSP SAFIS applications. Connecting cellular-based special monitoring systems and e/Trips

mobile for real-time linking of track to harvester trip reports. This is just kind of a refresher as to why we're focused on cell-based vessel tracking. They are generally lower in cost, although ours are not quite as low as what Bill just presented, but we're working on that.

They work in and out of cell range, data are stored, transmitted once it's available again. Data plans can be charged as monthly or annual cost. Ping rates are generally adjustable without a changing cost, and they can use direct power, solar power, and they are compatible with most vessels. This market is expanding rapidly.

Like Bill said, the Particle tracker came out last summer. Things have been changing quite rapidly. For our project, we had a couple of objectives. Basically, we were testing the ability of five different devices to collect vessel GPS information, working with the APIs for each device company, to acquire those tracks and link them to the harvester trip report submitted via eTRIPS/mobile.

We're testing the functionality of geofences, both within eTRIPS/mobile, and the different devices that we're testing. Then we quickly realized we needed to add on a few things, mostly a viewing interface in the app for the harvester to see their own tracks, and an admin viewing interface to see all tracks within your jurisdiction.

We settled on these five devices here. The fifth one is the integrated GPS into a tablet itself. Like Bill said, our costs were generally similar to what he has presented, averaged around \$350.00 to \$400.00, with data plans ranging from anywhere from low end of \$100 to a high end of \$400.00. Within eTRIPS/mobile, it is currently endorsed for trip report submission by multiple states in the federal jurisdictions. The tracking version uses the device company's APIs to pull in the vessel positions, based on a trip start and end times.

It works on all three platforms, including laptops, tablets and phones. It does work offline, and stores data until a Wi-Fi connection is reestablished, which does not have to be on the vessel itself. Then the new map view option lets the user see their track trips within the app. If you're using the tablet as a tracker, there is potential to use the map view in real time, and see your position in real time.

The app is ready for deployment. We're looking for some fishing industry participation at the moment, and hopefully we'll get some production trips in the next month or two. Here is an example of what a track might look like within the harvester app itself. There is no indication speed or anything, but it does show the track itself.

Testing, we have done a lot of testing in cars, not so much on a lot of active fishing vessels at the moment. But we have had successful tracks pulled from all devices and links to trips appropriately. We're hoping to launch on more volunteer vessels shortly. We have two in Massachusetts, Rhode Island has a few charter participants, and is looking for more commercial participants. We have an FAQ developed, in order to give to potential interested parties. The ongoing work we have right now is primarily focused on geofencing. Our geofencing is basically a virtual perimeter that you could put around whatever you want. We're looking into how we might notify users, both admin or end users in real time, if in cell range, if a vessel is approaching or crosses a fenced area.

There is a lot of different use cases for such things. Bill mentioned the defining ports to decrease port ping rates, or you can flag areas as closed. ACCSP specifically Mike Rinaldi, has developed a VMS track viewer within SAFIS, so that we can as administrators can look at tracks and summarize information, including calculated speed, so you can maybe estimate where some activity might have been happening.

We'll be able to review some of that ping rate data in more real time and identify efforts, after we get it on fishing levels. We're hopeful we'll have final reports by the end of the summer. This is an example of the

track viewer. This is the admin interface. This is a repetition of display speeds on top of the track.

Anywhere where it is red is the slowest, yellow is the next, and then green is the fastest. We've expanded upon the work that Bill presented last year, and can further confirm that cell base trackers are cost effective, as compared to satellite. Installation of devices, which also Bill mentioned a little bit, can be complicated if they are actually wiring it in, and if we were to do a broad scale implementation, we may need to look into hiring installation technicians.

We have successfully connected all devices, and we are not seeing any significant benefit of one type of tracker over another. They all have different pros and cons, particularly in relation to power. Some are solar, and don't work the further north you go. Whereas, frequently the further north you go, others just are more cumbersome. They kind of balance out, in terms of the pros and cons.

We think that this could be available as early as 2022 for eTRIPS users. We're currently in the process of looking into how we might expand this project, particularly in terms of how do we apply for more funds to do so, that is. These are just a few of the ideas we've been tossing around, how do we pay for broad scale implementation? How do we enhance geofencing? Bill also touched on this, but these are being piloted as data collection tools, not as law enforcement tools.

To integrate those into law enforcement is going to take some work. Add more devices, such as the Particle device he just presented, and what other needs do we need to think about in the next two to four years? The funding cycles mean that we won't get money for this next phase until next summer, which would mean implementation if you're on an annual basis for 2024. Then what lobster specific needs? We're not sure what we might want to pursue going forward. That's all I have.

CHAIR MCKIERNAN: Thanks, Anna, I have a question. If this is being used on a voluntary basis now, and if through the management system was mandatory. How could it be determined that the vessel is in compliance with a functioning tracker?

MS. WEBB: Well, we would be able to see if, I don't know how you would do it before they reported, but once they start reporting if they're not also having tracks with those reports. We should be able to see, if we know who is getting what device, then we can see whether it is turned on or not. Those are other options.

MR. DeVOE: Dave, this is Bill. I'll just continue what Anna said that the tracker actually offers the opportunity to see if they haven't reported, because we would see that track plot if they went out fishing, but didn't submit a report. That is something we've actually talked about with Bluefin.

Kind of like putting together a matrix of all the different possible scenarios, like a vessel reports but their tracker isn't on. A tracker reports, but there is no trip report. We get a trip report, but might only get half the track or something. There is all these different sort of QA/QC scenarios that could come out of that.

MS. WEBB: Yes, agreed.

MS. KERNS: Dan, Jason McNamee's hand it up.

CHAIR MCKIERNAN: Go ahead, Jason.

MS. STARKS: Sorry, if I can interrupt, Dan. I don't know if you wanted to get through all the slides, but there are a few more.

CHAIR MCKIERNAN: Oh, okay.

MS. WEBB: Not mine, right.

CHAIR MCKIERNAN: Why don't we hold off, Jason, and go ahead, Caitlin.

MS. STARKS: Sorry about that, thought it might be good to get through the end. I just wanted to give a

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little bit of context for the discussion as you get into it today, on this topic of vessel tracking in the lobster and Jonah crab fishery. It's come up before the Board a number of times in the past, and the Board has generally noted that vessel tracking and the data, the spatial resolution and temporal resolution of data that would be provided is a critical data need, particularly for the federal water's fishery.

There are more details in the memo that is in supplemental materials, so I'll keep it short to save time. But these data would be extremely beneficial for addressing several challenges that are currently facing the lobster fishery, and those include right whale and protected resources interactions and risk reduction regulations, improving enforcement in the offshore fleet, and informing future discussions and decisions on marine protected areas, and spatial planning at the federal level.

These are just a few examples of how the Commission and states have been supporting efforts to facilitate the development of electronic tracking programs for the fishery. First, the Board approved the electronic vessel tracking program, the pilot program that came out of Addendum XXVI, and that we've heard about in the past. The Commission has previously sent a letter to NOAA Fisheries in April, 2019, recommending development of electronic tracking systems in the federal lobster fishery, and in the Commission's recent comments on the Atlantic Large Whale Take Reduction Plan modifications, in March of this year. It identified the need for improved offshore enforcement, in order for those proposed rules to be effective.

Then lastly, as we just heard from Bill and Anna, there has been ongoing work at the state level to test these trackers and integrate the data with reporting systems. With that in mind, the Board might wish to consider today whether it would like to forward a recommendation to the ISFMP Policy Board to recommend that NOAA Fisheries implement electronic vessel tracking

requirements for the federal lobster and Jonah crab fishery, and that's all the slides we have, so we can go back to questions. Sorry for the interruption.

CHAIR MCKIERNAN: Okay, Jason, you had a question?

DR. McNAMEE: It is a question. I think it's for Bill and/or Anna. Anna, I think it was you. You made the comment that you know you have a number of technologies. They are all good. They all have different tradeoffs. But what I was wondering is, if all of them can integrate into the, for instance like ACCSP database, so it's like they all work in that way. That is what I was wondering.

MS. WEBB: I will say, we didn't pilot every device that Maine and Massachusetts piloted for the first project. There are five devices, or four external devices, plus an integrated GPS and a tablet that work with ACCSP right now. I personally would love to see the Particle Tracker added. That is dependent on what ACCSP says, in terms of what is in scope and out of scope for maintenance of this application. As we consider applying in this next funding cycle.

MR. DeVOE: My understanding is that we should be able to submit locations from those now. I mean the ACCSP API as APAIS. The only data elements that it accepts is basically time stamp, latitude and longitude.

MS. WEBB: Right, yes. Any tracker we could get data from, but linking it to the trip report will only occur on the four external devices currently. I mean you could look at the time stamp and manually do it. But the automated link is only for five devices right now.

DR. McNAMEE: Excellent, thank you both very much. Just to make a comment. You know I think if there are opportunities to have options, you know I think that is great. Nice work, thank you for that report.

MS. KERNS: Alli Murphy has her hand up.

CHAIR MCKIERNAN: Great. Okay, so we have a Board consideration for the discussion. Alli, do you want to start the discussion?

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MS. MURPHY: Sure, Mr. Chairman, thank you. I think this is an important issue, and potentially a very valuable data source. The great work done to date has been very successful at demonstrating that there are other possible systems that we can employ, other than the satellite-based VMS systems currently used in GARFO fisheries.

I do understand the urgency here, but I think it's really important that we get this right. I would urge the Board against sending a recommendation to NOAA Fisheries, as outlined in the April 27th memo, and instead develop this program through a Commission Addendum process. If I may, I have a couple additional points, Mr. Chair.

CHAIR McKIERNAN: Yes, please do.

MS. MURPHY: First, much like our discussion on the Gulf of Maine Resiliency Addendum, I think it would be beneficial to define the goals and objectives of this data collection program. It seems like the memo has jumped to a solution, and identified a bunch of ways that we could use the data resulting from that solution.

But I think we need to do a little bit more work to ensure that our solution fits a problem that is based on a management need here. Some questions I have that Anna raised in her presentation are, you know is this a monitoring, compliance and enforcement issue? Can we develop a comprehensive plan to address that, or is this purely to collect higher resolution spatial data than what was included in Addendum XXVI?

I think once we've answered those questions, or we know what that driver is, we can then evaluate what the best technological solution will be at the lowest cost. Then, I think second, the participation of our experts, so that is our management and data folks, as well as our enforcement partners from all of our jurisdictions. It is going to be important to not only establishing those objectives, but they are

going to be critical to defining what data we collect, how, and then how well jurisdictions can access and make use of it.

On this point, I think being more proactive in our process here, and having these cross jurisdictional and cross program conversations earlier in the development process, then say we did with Addendum XXVI, when those conversations took place after we passed the Addendum, is going to benefit and speed this whole process. Mr. Chairman, I know we're over time here, and if you would like, I would be prepared to make a motion. But if you would like to open it up for some additional discussion, I can wait as well.

CHAIR McKIERNAN: Well, you know what? Why don't we let you put the motion up, because the discussion can follow the motion?

MS. KERNS: Dan, Pat had his hand up before Ali. I mean, I don't know if you want to go to Pat.

CHAIR McKIERNAN: Sure, okay so hold on a second, Ali. We'll go to Pat and I'll come right back to you.

MR. KELIHER: I have to say that I am very much in firm opposition to many of the points that Ali has just raised. We're in a situation where we have spent a tremendous amount of time looking into these issues around trackers. As you heard from the two presentations today, we have many options.

Those options will be critical for the Agency to have in place moving forward, based on what they've done in the past with VMS, having additional contractors available, so nobody is stuck in a single box, as far as what technology they would be able to use. We have the ability to house this data through ACCSP, which is a critical component.

I would argue that we have the goals and objectives, and Caitlin could back up one slide to the points to consider. Those points are key here. We have a whale issue that is being driven by models that make great assumptions. The data associated with trackers would allow us to fill in the void, the data voids with those particular models.

The offshore enforcement issue again, is critical here. We've talked about through the Law Enforcement Committee, and more broadly at the Board, about the need for having large offshore patrol vessels to work in a more thorough way in Offshore Area 1, and out into Area 3. But we've kind of said right off the bat that after looking into those issues, that a tracker will only make that work more efficient. We now have NOAA OLE looking at the use of remote operated vehicles, submersibles, excuse me, in order to check that gear.

Well, you have to be able to find the gear in order to be able to check it, and trackers would allow that to happen. You know these marine protected areas and spatial planning efforts that are underway, President Biden has his 30-30 Initiative. Again, incredibly important data to be able to fill in the voids there.

I just look at the amount of work that we had to go through on deep water corals in Maine, pulling that information together. Months of interviews with harvesters by multiple members of my staff, in order to pull that together. We could have had that done in a matter of hours, if we had this type of data.

I also don't believe that we are under any obligation by statute, in order to move forward with a letter of recommendation from the Policy Board to the Agency. I've heard about this. I've had conversations with folks within the Agency about wanting to see an Addendum, but we don't have the time. Let's just make it really clear. We don't have the time to go through this process, in order to advance this work that needs to be done.

I think we need to do it jointly. I think we need to do it in partnership between the Agency and the States and the Commission. But time is of the essence, and we need to have something in place, in my mind, by January 1st of 2023, in order for it to be useful for the conversations in particular around whales, based on the Biological Opinion and the timing of the

framework that has been put forward. I would have a motion as well; in case we need to.

CHAIR MCKIERNAN: Well, yes. I would like to let Ali finish her arguments. Speaking as Chairman and also as somebody who has dealt with NOAA on issues of VMS and access to VTR data, and the very difficult challenges of those ten-minute square conversations, where NOAA goes forward with something, and then we all try to get access to it, it's really challenging. I'm interested to hear from Ali, you know her argument about the advantages of the Addendum. But Ali, why don't you complete your argument, before we go back to Pat.

MS. MURPHY: Thank you, Mr. Chairman, do you want me to make that motion now?

CHAIR MCKIERNAN: Yes, but just tell us what you have in mind, but sure, put it up if you would like.

MS. MURPHY: Yes, so I think I would move to initiate an addendum to develop objectives for collecting high resolution spatial data, identify technological solutions, and develop system requirements.

MS. STARKS: Can you repeat what you said after identify, please?

MS. MURPHY: Technological solutions, and develop system requirements.

CHAIR MCKIERNAN: Okay, usually we let you speak to the motion once you get a second. Is there anything else that you want to put forward as the rationale for this, before we ask for a second?

MS. MURPHY: If I may, Mr. Chair. You know I think my language here is a little bit vague on purpose, so that the PDT or whoever we're tasking can start at step one and define the need, and then find the solution that fits that need. Yes, I guess I can leave it there. I also, I guess one additional point would be that I think there is absolutely, as Commissioner Keliher said, that the need for us to work in collaboration on this.

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I think the Commission process is the way to do that. I think if this is kicked to NOAA, and we do this all internally, there is not a lot of ability for us to check in with our state partners and with the Commission on what we're doing, until we've proposed a rule. I think this will be the most efficient path forward.

CHAIR MCKIERNAN: Okay Ali, thanks for that. Can we get a second from the Board on this motion?

MS. KERNS: We have hands that have been up, David, so I'm not sure if these hands are for seconding the motion or not. If someone is seconding it, could they just voice that second?

MS. PATTERSON: This is Cheri. For the sake of conversation and to start the discussion, I'll second.

CHAIR MCKIERNAN: Thanks, Cheri. Ali, maybe if you could just elaborate, because I hear Pat's concern that, I think he perceives that having an Addendum is going to slow this process down. You seem to be arguing that having this process might speed it up, because through the Commission we might be able to do things in a more expeditious fashion. Can you speak to that?

MS. MURPHY: Yes, so I guess part of my fear here is, you know if this is kicked to us. As I just said, you know without the ability to check in with all of you on the development of this program until we have a proposed rule. I fear that we're recreating some of the mistakes we made with Addendum XXVI, by doing that hard work of understanding each other's programs, and finding solutions that work for everybody too late in the process, and that will slow things down.

I also think some of the work that this group could do up front will aid in my potential rulemaking process later on. You know having those goals and objectives clearly defined, and having some information on costs and some of

that work has already been done, and will also help to help me with the justification that this really is the lowest cost solution for the problem that we're trying to address.

CHAIR MCKIERNAN: Okay thanks. Any discussion on the motion?

MS. KERNS: You have Pat Keliher, David Borden, Jason McNamee, Cheri Patterson, and Mike Luisi. At some point, Dan, I would like to ask some questions about potentially about these objectives that Ali has described, but let the Board have some discussion first.

CHAIR MCKIERNAN: Okay, so I've got Pat Keliher, Dave Borden, Jason McNamee, Mike Luisi, who else?

MS. KERNS: Cheri Patterson.

CHAIR MCKIERNAN: All right, Cheri. Okay, Pat Keliher, go ahead.

MR. KELIHER: I appreciate Ali's points here, but I still have to disagree where we're at. We could go through an entire addendum process, and there is zero guarantee that at the end of the day we will have this work completed by the Agency, and there are examples of that that are in play right now. What I would like to do is make a motion to substitute, and Caitlin has that language.

CHAIR MCKIERNAN: Okay.

MS. STARKS: Dan, could you let me know. You sent me a couple things, so I just want to make sure it's the third one.

CHAIR MCKIERNAN: I'm sorry, Caitlin, are you asking me to send you something?

MS. STARKS: Sorry, I meant Pat, if I said Dan. Sorry, mixing up names. Pat, are you talking about the?

MR. KELIHER: To recommend that the Policy Board write a letter.

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MS. STARKS: Maya, can you pull that motion up, please?

MR. KELIHER: Mr. Chairman, I would move to substitute, to recommend to the Policy Board that a letter be written to NOAA Fisheries recommending the prioritization of federal rulemaking to require the use of cellular-based vessel tracking devices in the federal lobster and Jonah crab fishery. Included in this letter the Lobster Board's willingness to establish a technical workgroup to support NOAA's efforts on vessel tracking.

CHAIR McKIERNAN: Is there a second for Pat's motion? Toni, any hands up?

MS. KERNS: All those same hands are up from before, so if someone could just voice their second. It's hard for me to tell.

MR. BORDEN: Second, David Borden.

CHAIR McKIERNAN: Second by David Borden. Okay, can we have discussion on this motion?

MS. KERNS: You still have the same hands, but Jason McNamee has his hand up.

CHAIR McKIERNAN: Go ahead, Jason.

DR. McNAMEE: Now I'm sort of wondering. I am generally supportive of what Ali offered. You know, I'm thinking it's an opportunity for us to make sure. You know if we just sort of offer a letter, and then NOAA implements it in a way that is not helpful to us. You know, I saw the Addendum as an opportunity for us to make sure the way it gets implemented is going to work for the states. I guess an addendum process doesn't feel like an enormous amount of time, so I was supportive of that.

Now with Pat's substitute, I guess I have the question of, I like that too, because again, it is my view that this technical workgroup would serve that same purpose. In the end, I just want to make sure that NOAA gets guidance from us,

from all of the work that we've been doing to make sure that this gets implemented properly. I guess I'm wondering what Ali thinks about this, you know the second part of Pat's new motion here that will put together a technical working group to support NOAA for that informational piece. I'm wondering if that fits the bill or not.

CHAIR McKIERNAN: Ali, do you want to speak to Jason's question?

MS. MURPHY: Yes, I mean I think if that were possible, I think that would be helpful. But unfortunately, there are restrictions on having that kind of guidance and check in with members of the public while we're in rulemaking. Chip may be able to give me a hand here with some of the legal arguments against it, but it sounds like Commissioner Keliher is recommending something like a federal advisory committee, and that would trigger FACA problems for us.

CHAIR McKIERNAN: Okay, thanks. Any other hands up to discuss the substitute motion?

MS. KERNS: We have David Borden, Cheri, and Pat Keliher. I do just want to say, just before they go, Dan. I do actually think we already, through the work that we have done, already have the answers to most of Ali's questions that she would want to go through an addendum process. I just do want to point that out to the Board. I'm not sure.

Those aren't the type of issues that we typically take out for public comment. I think it would be really difficult for the public to comment on some of those things, and most people haven't used these trackers yet, and that the trackers have been developed in conjunction with industry. Those folks that would be providing advice that we would be putting in this letter to NOAA, in addition in this sort of workgroup, which could include industry members, obviously law enforcement would be commenting at that time. I just wanted to point those pieces out.

CHAIR McKIERNAN: Thanks, Toni, David Borden.

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MR. BORDEN: I'm in support of Pat's substitute, and I'm opposed to the underlying motion. I just point out, and I'll use myself as the example. I've worked over the past couple of years on issues involving the Monument, corals, wind development in Southern New England, right whales, and soon I think we're going to be confronted with a whole new round of wind proposals, if Congress approves the budget, and allocates 400 billion, that's with a B, dollars for tax credits for alternative energy development in both solar and wind.

I think you'll see a proliferation of wind. Each one of those issues would have been made so much easier if we had specific information on where the fishery is actually taking place, which we don't, with all due respect to NOAA. The use of current reporting system does not lend itself to reporting in a really defined spatial area. With all of those issues we were constantly in the perspective of, well is there a fishery there? How much of a fishery takes place? We need this type of information.

I also point out that the recommendation by Mr. Keliher only applies to federal permit holders. It does not apply to state permit holders. If it is only going to apply to federal permit holders, I'm not sure why we need an addendum in the first place. Then the final point is on this issue that Ali raised, about certain laws and regulations. I think it is incumbent upon the leadership of the Commission if this motion passes, the substitute passes, to work with NOAA to work through those issues, and try to eliminate as much of the confusion that might ensue.

I mean on the confidentiality provisions, most of the state personnel that have led the work on this, and done a lot of fine work on behalf of the state agencies on this issue. All of those individuals can be bound by confidentiality agreements. I think this is something that we can send a letter, but then commit ourselves to partner with NOAA on the details in an appropriate manner.

CHAIR MCKIERNAN: Jason McNamee.

DR. McNAMEE: I'm all set, Mr. Chair.

CHAIR MCKIERNAN: Okay, Mike Luisi.

MR. LUISI: No, the questions that I had have been answered. I'm good to go, I'll pass.

CHAIR MCKIERNAN: Okay, Cheri Patterson.

MS. PATTERSON: Yes, thank you. I'm probably going to be voting yes for Pat's motion to substitute, especially since I heard that an addendum isn't really needed for this. The objectives are already stated, as to why we need the high-resolution spatial data, and I guess I need some sort of confirmation from either Chip or Ali, as to can NOAA in fact move forward with rulemaking, based on a technical workgroup input, or do they really have to shut off all communications with "the public."

I put that in quotes, in order to develop some sort of vessel tracking. I guess I'm concerned about timing here, and I think we've got all the information needed to pull together by something by a timeline of January 1st, 2023, right now. But I guess I need to hear substantively from Chip, as to whether that is correct or not, thanks.

CHAIR MCKIERNAN: Thanks, Cheri. Can we get some feedback from NOAA Fisheries, either Chip or Ali?

MS. KERNS: Chip has his hand up Dan, and he should be unmuted. He just needs to unmute himself.

MR. CHIP LYNCH: Hi everybody, and thanks. This is Chip Lynch with NOAA General Counsel. To Cheri's point, and Pat's point, there is not a legal restriction that prohibits NOAA from beginning a rulemaking without an addendum. I think I just put three or four negatives together there, I'm not sure if that's right.

We can begin the rulemaking without a formal addendum. But to Ali's point, once we begin rulemaking, the law concerning ex parte communication would mean that we would not be able to engage in a technical workgroup, the type that

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Pat might be referencing. We have all sorts of federal advisory committees.

You know we can hear of it as FACA, with restrictions that prohibit there being a group that makes recommendations, a special blue-ribbon panel that they get special access. I would note, both with Ali's motion and Pat's motion, that there is a certain commonality to it. They are not mutually exclusive. It seems as though both are calling for process, it's just when that process occurs.

Legally, there is the potential to have that process occur before the formal recommendation, and that would allow for a little bit more time for this to bake, but wouldn't necessarily slow down anything, and need to potentially not even have to be an addendum. But it would be the convening of a group before the letter was sent. I'm not suggesting that, I'm just noting that there is potentially a hybrid here between the two motions that is something that the Board might want to consider. Thank you.

CHAIR MCKIERNAN: Thanks, Chip. Chip, could you answer a question for me? It has to do with access to the data. Given our experience with VMS, and how difficult it is to get access to VMS, unless you are approved, I guess by NMFS Law Enforcement or some folks at NOAA. Is it possible if this goes the federal route, that the states may have less access to this data than we want?

MR. LYNCH: Sure, so I would think that that would be one of the issues that folks would want to discuss. Is it possible? Oh, absolutely it's possible. It need not be intentional either, it could be an unintended consequence, because some federal bureaucrat, like me, just didn't know enough about the issue and wrote something a certain way, without consideration to the problems at hand, so yes.

This is necessarily getting together with some people, even if it's just for a whole other ASMFC

season. You know next meeting, just people get together and sort of troubleshoot some issues. You could end up with people saying, nope everything is fine, we're good to go, or we're not. I think that would be time well spent in something that doesn't necessarily slow things down.

CHAIR MCKIERNAN: Thanks. As I understand these two motions, if the substitute passes and that is made final, then the Policy Board would be recommended to write a letter, and the response to that letter could still be, from NOAA Fisheries, telling the Policy Board that we think you should do an addendum. It's sort of a tennis match, right, what's being served, what's being returned, instead of going right to an addendum, which is Ali's motion. Is there anyone else who wants to comment on the substitute motion, because we might as well take a vote soon.

MS. KERNS: You have Eric Reid, David Borden, Jason and Pat Keliher. They've all had their hands up.

CHAIR MCKIERNAN: All right, Eric Reid, go ahead.

MR. ERIC REID: I don't know how many boats already have satellite tracking devices, so I'm not really sure why we can't use those objectives to justify anything we do. This cannot happen fast enough. I would support Mr. Keliher's motion. But I have a question, because it says to require the use of cellular-based tracking devices in the federal lobster and Jonah crab fishery. Now, my boats, they have lobster permits, but they've got satellite.

I would assume that it would be okay to have satellite tracking, in which case the motion should read something like, to require the use of approved vessel tracking devices in the federal lobster and Jonah crab fishery, as opposed to having to get a cellular device to meet the qualifications of this motion. It's just a technical point, but that's it. Thank you.

CHAIR MCKIERNAN: Pat, do you accept that as a friendly amendment?

MR. KELIHER: Yes, assuming my seconder would I can go along with that, because there are going to be a lot of conversations around the technical side of this,

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such as ping rate. I think we would get to that point down the road, and if we had satellite-based systems that pinged at a faster rate to achieve what we need here, then yes, I would say I would be fine with that.

CHAIR MCKIERNAN: David Borden, are you good with that amendment?

MR. BORDEN: Yes, sir.

CHAIR MCKIERNAN: Okay, Caitlin, do you want to make that minor change?

MS. STARKS: Yes, not me, Maya. Did you get that, and if not just ask for clarification?

MS. MAYA DRZEWICKI: Could you just repeat the amendment?

MS. KERNS: Maya, it would be use of cellular-based or satellite-based vessel tracking devices. But Dan, Bill DeVoe just put his hand up. Do you mind going to him? My guess is that he is going to speak to the expense that would come with satellite-based tracking at the ping rates that we've talked about, but maybe not.

CHAIR MCKIERNAN: Sure, go ahead, Bill.

MR. DeVOE: I definitely would suggest that the satellite-based tracking is going to be prohibitively expensive, particularly the same ping rates, which are almost nonexistent. I also would request that you all could think about how these devices would be implemented along with the existing federal VMS requirements.

You know, if we are putting the suggestion in, is this going to get steamrolled, you know into the suggestion that the devices have to be an existing type approved VMS device, for which there are some that are cellular based, but the requirements are quite contradictory. In particular what comes to my mind, is that for the type approval process.

There is the suggestion, that cellular-based devices can be approved, and that they do not need to upload data until they are back in cell service. But the type approval process also dictates that VMS devices are able to use mobile forms, are able to have two-way e-mailing, all of these sorts of functionalities that I at least haven't heard any suggestion that we need, to get this much needed spatial data in the lobster fishery.

CHAIR MCKIERNAN: Sure. Is it also clear in this motion that this is the Jonah and lobster trap fishery? It's the vessels fishing traps, right? Because I think to Eric Reid's point, his vessels have federal lobster permits, but they may not be fishing traps. Eric, is that your expectation?

MR. REID: Yes, Mr. Chairman, that would be correct. But there is no sense in having a system where the ping rate may not be as high, which was pointed out already. But to have to go through the expense of getting another system, it seems foolish to me, that's all.

CHAIR MCKIERNAN: Who is next, David Borden.

MR. BORDEN: A quick point, but if I might. Chip, would it help if in the last sentence we said something like, include in the letter the Commission's willingness to establish a technical working group of state agency personnel to support NOAA's effort. Would that help in your view? That way, the people that are being brought to bear could be bound by the confidentiality rules.

MR. LYNCH: Mr. Chair.

CHAIR MCKIERNAN: Yes, go ahead, Chip.

MR. LYNCH: The FACA issue is less about confidentiality, and more about access. I don't know enough about the issue with tracking to advise, but I am not sure it would be much of a delay. If the technical group could get together, and before the August meeting you might be in the same position of not wanting to do an addendum.

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But you would still have that technical group having met. I just don't know how long it would take a group to meet. But it seems as though moving it off to the summer meeting, you would still have that technical group meeting, might be a compromise that achieves the goals of many of the groups here.

MR. KELIHER: Mr. Chairman, to that point.

CHAIR MCKIERNAN: Go ahead, Pat.

MR. KELIHER: Chip, my intent was certainly not to trip any issues with FACA that both you and Ali have brought up. The intent is to, I mean I feel like on many occasions we have working groups that work proactively together with the Agency. Would it help in, maybe this is what you were trying to get to, with kind of that middle of the road. Would it help to change the order here to have the Policy Board institute a technical working group, or collaboratively with the Agency.

Then we would revisit the need for, and possibly then just revisit the need for a follow up letter to prioritize it. I mean the whole idea here, Chip, is to prioritize rulemaking, because I don't think based on what I've heard, that GARFO has the bandwidth right now to do this work. I think it is incumbent upon us to work proactively together, in order to complete this task. If there is a way that we can structure this to avoid FACA, but still get to the same end, I'm all ears.

MR. LYNCH: Mr. Chair.

CHAIR MCKIERNAN: Go ahead, Chip.

MR. LYNCH: Normally at a Commission meeting if I'm at the microphone, I can look over to see Ali giving me the knife to the throat sign to be quiet. I can't here though.

MR. KELIHER: She's giving it to you, Chip, she's giving it.

CHAIR MCKIERNAN: Would you like to take like a three-minute break?

MR. LYNCH: No, I think I'm okay, and I'll just have Ali just thump me after. But I think what I'm saying is that yes, Pat. I don't know if the Agency wants a compromise, but what I'm telling you is that if a tech group, on which the federal government could be a member were discussing this issue generally, you could be back in the same position that you are now in August.

But you will be far more informed, and the three-month time delay is not necessarily a time delay, because it is front-end loading scoping and issues into what could be a potential federal rulemaking, if that is what indeed what the Commission wants to do.

MR. KELIHER: The motion could be that the Policy Board invites NOAA Fisheries to participate in a technical working group on the development of federal rulemaking around approved vessel tracking methods for the federal lobster and Jonah crab fishery.

MR. LYNCH: Mr. Chairman, can I speak?

CHAIR MCKIERNAN: Please do.

MR. LYNCH: Not to beat a dead horse, Pat. I can tell you that your intent here is loud and clear, and is recognized by the Agency. Loud and clear before this meeting even was convened. I would not put in the motion that this is recommending federal rulemaking at this point. That would be something that no harm done by keeping it out. If that is where you all want to be in August, you can state it at that point.

CHAIR MCKIERNAN: Pat, do you have?

MR. KELIHER: I think I would like my seconder to weigh in here, but I think we're going to get to that point, right? I would be amenable to recommending that the Policy Board write a letter to NOAA, inviting them to participate on a technical working group to further develop vessel tracking devices for the federal lobster and Jonah crab fishery, and just leave out anything around prioritization. Then we could put this

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on the agenda for the August meeting, where we could report out the progress.

I want to make sure it's also clear in the record here today, I'm not looking to avoid public participation in this. I think to Toni's point, we've got a lot of information already on the table that would be beneficial for NOAA to understand, and then the public process would come from down the road, if we got to the point of federal rulemaking the public would comment on it at that time.

CHAIR McKIERNAN: Okay, so Pat, can we take like a two-minute break for you to redraft this language?

MR. KELIHER: Sure.

CHAIR McKIERNAN: What is the official time, Toni?

MS. KERNS: The official time is 5:01.

CHAIR McKIERNAN: Okay, let's reconvene at 5:05.

MS. KERNS: Pat, I'm calling you.

CHAIR McKIERNAN: Are we ready to reconvene, it's 5:05.

MS. STARKS: Toni is not picking up; I'm assuming she might still be talking to Pat on the phone.

MR. KELIHER: We got it. Okay, Mr. Chairman, I think we have a solution.

CHAIR McKIERNAN: Go ahead, Pat.

MR. KELIHER: The solution would actually be a Board prerogative, instead of dealing with this with a motion at all. If I can read my hen scratching here, we would create a technical working group that includes NOAA, Law Enforcement representatives, and members of the Board, to develop objectives, technical

solutions, and system characteristics for vessel tracking devices in the federal lobster and Jonah crab fisheries, and report back to the Lobster Management Board at the August meeting.

CHAIR McKIERNAN: Okay. You are making a second substitute motion.

MR. KELIHER: I think you could do this if there is Board consensus, Mr. Chairman. I think we could, if you wanted to, eliminate the motions that are on the Board with agreements. I don't know if you can, based on the fact that they are owned by the Board now. But it may be the quickest way forward, and it achieves my intent, and I believe it achieves the intent that Ali and Chip were getting to.

CHAIR McKIERNAN: It sounds like you've come to a good solution, Pat. Can we just see the final language on the screen, if you would give that to staff?

MR. KELIHER: Let me see if I can. I was more handwriting this than anything, so let me just pull this back up.

MS. KERNS: Pat, I can help you, and Maya, it's sort of a combination of these motions, if need be.

MR. KELIHER: It might be easier to just read it to Maya, for her to capture this.

MS. KERNS: Maya, it uses a lot of the words from Ali's motion, and then the second motion.

MS. DRZEWICKI: Okay that's fine, you could start talking whenever.

MR. KELIHER: The Lobster Board would create a Technical Working Group that includes.

MS. DRZEWICKI: Should I start a brand-new paragraph, or should I just jump in somewhere?

MR. KELIHER: I would start right below my motion, brand new. It will make it cleaner.

MS. DRZEWICKI: Okay, I'm ready.

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MR. KELIHER: The Lobster Board would create a technical working group that includes NOAA, LE representatives.

CHAIR MCKIERNAN: Is that state and federal?

MR. KELIHER: Yes, and members of the Board to develop objectives, technical solutions, and system characteristics for vessel tracking devices in the federal lobster and Jonah crab fisheries, and report back to this Board at the August meeting.

CHAIR MCKIERNAN: Okay. Will we see it on the screen shortly?

MS. KERNS: At the bottom, Dan.

CHAIR MCKIERNAN: Yes, so this should be a motion for the Lobster Board to create, and we need a second?

MS. KERNS: Dan, if there is consensus you don't need a motion to do this.

CHAIR MCKIERNAN: Okay, thanks, Toni, is there any objection to the new concept motion that Pat has brought forward?

MS. KERNS: But Dan, the one thing that we would need to do is get the Board's consent to withdraw the other motions, but those withdraws would have to also be okay with the makers and seconders, because we do have motions on the table.

CHAIR MCKIERNAN: All right, so to Mr. Borden and Mr. Keliher, do you agree to withdraw your previous motion?

MR. KELIHER: I would.

MR. BORDEN: Yes.

CHAIR MCKIERNAN: To Ms. Murphy and Ms. Patterson, do you agree to withdraw your previous motion?

MS. PATTERSON: Yes.

MS. MURPHY: Thank you, Mr. Chair, yes. I think this is a good middle ground to start some of these discussions, thank you.

CHAIR MCKIERNAN: Okay, so now we have a new motion. I understand Bob Beal wants to weigh in before we go forward. Bob.

EXECUTIVE DIRECTOR BEAL: Yes, thanks, Dan. I think technically the maker and the seconder can't withdraw their own motion, now that they are the property of the Board. They've been debated for quite a while now, and you need to have full consensus by the Board that they are comfortable withdrawing both of these motions, rather than just the maker and the seconder.

CHAIR MCKIERNAN: Okay. To the full Board, is there any objection to withdrawal of Mr. Keliher's motion seconded by Mr. Borden? Hearing none, to the Board. Is there any objection to withdrawal of the motion previously made by Ms. Murphy, seconded by Ms. Patterson?

MS. KERNS: Dan, I want to make sure Mike Luisi is not objecting. He has his hand up, so I just want to confirm.

CHAIR MCKIERNAN: Mike.

MR. LUISI: Oh no, Dan, I'm not objecting, I just had a question. But you are going in the right path. I was just trying to figure out how this worked under Robert's Rules. I think what you're doing right now. That's all I had a question for, so I want to put my hand down. But as long as we can clear the board and then vote on the new motion, I think we're good to go.

CHAIR MCKIERNAN: I think so too, thanks to Robert Beal helping us with Robert's Rules. I think we're in a good place. Now we have this new motion. Do we need a second on this motion, Toni?

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MS. KERNS: I guess my thought was is you could do this by consensus. It doesn't necessarily have to be a motion. But it can be a motion if you need it to be.

MR. LUISI: I'll second the motion if need be, after the other motions get clear, I'll second the motion for discussion.

CHAIR McKIERNAN: All right, so it's a motion by Pat Keliher, it's been seconded by Mike Luisi, and we can take discussion. Is there any need for discussion? If not, then we can just, is there any objection, assuming not?

MS. KERNS: I don't see, well Pat Keliher has his hand up. I think it might be an artifact of before.

MR. KELIHER: Yes, my apologies. I get confused with these fancy buttons, sorry.

CHAIR McKIERNAN: All right, so there is no objection to this motion. It's enacted by consent. Thank you everyone, sorry about that difficult process, but these are very important issues. In my mind there is probably nothing more important than the lobster fishery having an opportunity to establish its footprint on all the issues that were laid out in that memo.

OTHER BUSINESS

APPOINTMENT TO THE PLAN DEVELOPMENT TEAM FOR ADDENDUM XXVII

CHAIR McKIERNAN: All right, I think next is Other Business. Is there any other business to come before the Board? Actually, I have one. I would like to appoint Bob Glenn to the Plan Development Team. Is there any objection on the Board to Bob Glenn joining the PDT? Bob is a former TC Chair, and has done a lot of great work on this, as well as the Large Whale Team, and I think he would be a great contributor to the PDT.

MS. KERNS: Dan, to clarify that is for Addendum XXVII that Max does not have a representative from.

CHAIR McKIERNAN: Thanks, Toni. Hearing no objection, let Bob know he's a part of the PDT for Addendum XXVII.

ADJOURNMENT

CHAIR McKIERNAN: All right, can I get a motion to adjourn?

MR. KELIHER: So, moved.

CHAIR McKIERNAN: Thank you everyone. Meeting adjourned.

(Whereupon the meeting convened at 5:15 p.m. on Monday, May 3, 2021.)