

SOUTH ATLANTIC FISHERY MANAGEMENT COUNCIL

HABITAT PROTECTION AND ECOSYSTEM-BASED MANAGEMENT COMMITTEE

**Westin Jekyll Island
Jekyll Island, Georgia**

March 5, 2019

SUMMARY MINUTES

Committee Members

Dr. Wilson Laney, Chair
Robert Beal
Chris Conklin
Jessica McCawley
Art Sapp

Doug Haymans, Vice Chair
Mel Bell
Tim Griner
Steve Poland

Council Members

Anna Beckwith
Dr. Kyle Christiansen
LCDR. Jeremy Montes
Spud Woodward

Chester Brewer
Dr. Roy Crabtree
David Whitaker

Council Staff

Gregg Waugh
John Carmichael
Julia Byrd
Dr. Mike Errigo
Kim Iverson
Roger Pugliese
Christina Wiegand

Dr. Brian Chevront
Myra Brouwer
Cierra Graham
John Hadley
Kelly Klasnick
Cameron Rhodes

Other observers and participants attached.

The Habitat Protection and Ecosystem-Based Management Committee of the South Atlantic Fishery Management Council convened at the Westin Jekyll Island, Jekyll Island, Georgia, Tuesday morning, March 5, 2019, and was called to order by Chairman Wilson Laney.

DR. LANEY: Let me remind everyone who is on the committee. It's Mr. Haymans, Robert Beal, Mel Bell, Chris Conklin, Tim Griner, Jessica McCawley, Steve Poland, and Art Sapp, and, as always, anybody is free to comment during our discussion and deliberations this morning. The first order of business is the agenda. Does anyone have any amendments to the agenda?

MR. PUGLIESE: Just a quick note for the session on regional partner coordination. We're primarily going to have a presentation from the Executive Director of the Southeast Coastal Ocean Observing Association, Debra Hernandez, on broader activities that we're coordinating with them and relevant to some of the discussion today, and so that's going to fit directly into that regional partner coordination, and I think that presentation actually has been distributed.

DR. LANEY: Thank you, Roger. If there are no other comments on the agenda, then the agenda will stand as approved, and the second agenda item is the Approval of the December 2018 Committee Minutes. Does anyone have any modification to those minutes? Seeing none, is there any objection to approval of the minutes? Seeing none, the minutes stand approved, and I will turn things over to Mr. Pugliese or to Director Waugh, one or the other.

MR. WAUGH: Thank you, Mr. Chair. I will run through this presentation fairly quickly. Roger worked with Mike Errigo and our staff to update the landings data that are in here, as we were requested at the last meeting, and let me just express gratitude to New England and the Mid-Atlantic for making the time in their business schedules to come down here for these discussions. We had this scheduled once before, but it got disrupted, but thanks for coming down this time, and at least you get to miss out on some cold weather up north. We will run through this, as I said, fairly quickly, and you all have a copy of this, and, if you have questions as we're going through, I think it would probably be easier just to -- Wilson, if it's okay with you, just to deal with them as we're going through.

DR. LANEY: Just one thing that I forgot to mention is thanks to Kelly. He distributed for me, this morning, and so all of you should have this, three articles from literally this week's issue of *Science* that just came out on March 1, and the title of Eva Plaganyi's summary of the articles by Free et al. is "Climate Change Impacts on Fisheries", and I'm not going to take time to read any of the quotes to you, except for one, which says: "Regional fishery managers and stakeholders can influence future sustainable fisheries production and food security through the development, adoption, and enforcement of sustainable management strategies and practices". That is just what we're all about here this morning, and so I would encourage you, and your staffs, to take the time to read that, if you get a chance. Thank you, Gregg.

MR. WAUGH: Thanks, Wilson. Just a little bit of history. Blueline tile and other snapper grouper species initiated this effort, and, in the past, we had looked at extending snapper grouper northwards, but we ran into issues with permitting and EFH, which we'll talk about later, and cobia, more recently, demonstrated the need for cooperative solutions with the Mid-Atlantic Council and with ASMFC.

We discussed this, back in September of 2017, and we reviewed catches, and those are included with Attachment 1, and we talked about steps, and we agreed to discuss this further. Charlie and I, who was the Chair at that time, went up to the NRCC, the Northeast Regional Coordination Council, meeting. There is material in your briefing packages, Attachments 1 and 2, and look at page 5, that talk about shifting stocks.

The three councils had agreed to have the Chairs, Vice Chairs, and the EDs talk informally, and we've done this, to look at reviewing true lead, administrative lead, and joint plans, and the South Atlantic Council was asked to research the process that we used to extend the Mackerel FMP northwards to include the Mid-Atlantic Council, and the group was interested in exploring that approach, with voting rights extended at the committee level.

At our March 18 meeting, Charlie and I presented the results of those discussions, and our council's direction to staff at that time was to explore how the mackerel plan was expanded, develop a list of priority species, and invite New England and the Mid-Atlantic to our September 2018 meeting, and so there are other documents that the councils have used over the years to work together on some of these cross-jurisdictional issues. There is an MOU between the New England, Mid-Atlantic, and South Atlantic that was signed back in 2013 regarding deep-sea corals, and it outlines how we're going to work together and share information on management of deep-sea corals, and so we have got examples of how we have worked together on some of these issues.

Just looking at the jurisdictional boundaries, the majority of our stocks go from the boundary with the Gulf in the Keys up to the North Carolina/Virginia line, and scup and black sea bass are at Cape Hatteras, and North Carolina sits on both the South Atlantic and Mid-Atlantic Councils, and Florida sits on the Gulf and South Atlantic, recognizing the cross-jurisdictional movement there.

We extended the king mackerel and Spanish mackerel boundaries northward through the Mid-Atlantic, and, over the years, we've had complex movement of those groups, even within our own council jurisdiction, but we have extended voting rights to the Mid-Atlantic on mackerel, and I think that has worked well. Then we also extended dolphin wahoo -- Well, we didn't extend that, but dolphin wahoo started out as a five-council plan, and, finally, it went to a true lead with the South Atlantic Council for the east coast.

In 2016, the boundary between New England and the Mid-Atlantic was refined from this red line that is shown here to the green line, and we're not going to go into any discussions, and feel free to talk with Tom from New England and Chris from the Mid-Atlantic or any of their reps that are here.

We have got examples of where the councils already manage species across their jurisdiction, and we don't mention it here, but there are other plans, like bluefish, that the Mid-Atlantic is true lead on, and that comes down through our area, and, right now, we don't have voting rights at the committee level, and we have never asked for it. Red crab is another one that New England is true lead on that covers our area, and so there are a number of situations that cross our jurisdictional boundaries.

In terms of looking at what species we might examine, the simplest approach, and we'll touch on this a little bit just before we open it up for discussion, is to expand the king and Spanish mackerel, and cobia now, FMP northwards, and that would be relatively straightforward. Snapper grouper

is one that you're seeing more and more movement northwards, and that would be more complex, and we would have the issues of black sea bass and scup and blueline to deal with, but, if that's the desire to move forward, then we can talk about what species we would look at.

In terms of how the Mackerel FMP was extended, this was done back in 1990, and there is a link there to the document, and what's very interesting, for those of us that have been in the business for a little while, is, if you look at the dates here when the council finished this amendment in March of 1990, to when the final rule was effective, it was August of 1990, and so we take slightly longer to go through that process now.

Basically, what that amendment did was extended the management area for the Atlantic groups of mackerels through the Mid-Atlantic Council's area of jurisdiction, and this slide basically shows that action, and this was simpler times back then, and so not directly comparable to how we operate now, but it explained that we're extending the jurisdiction, and MSY and OY and all of those values are calculated throughout the range.

From here onwards, we have the data that has been updated, looking at landings north of North Carolina, and we weren't going to go through this in any detail, and certainly we can answer any questions about it, but what the data show is that you are starting to see species show up farther and farther north each year, and we know the limitations of MRIP for rare-event species, and so, to have these species showing up in the MRIP sampling, it's likely underestimating the actual numbers that are occurring.

Over time, you can see an increase in the landings as we move northwards, and, unless there are any questions about that, and we would be glad to walk through any of this, but we thought it would be better to spend our time talking in a more general sense, and I don't know, Roger, if you wanted to mention anything in particular about this.

MR. PUGLIESE: Just a very focused comment. What you see in the frontend here was a combination of all the representation of Mid-Atlantic and New England catches that included managed species when we reviewed this back in December. If you go to I think Slide 33 and on, and it's described in the overview, it gets very specifically into -- It's about four tables that provide snapper grouper and coastal migratory pelagics and what we had to do -- I worked with Mike Errigo, and we ended up binning some of the species, making sure we kept the confidentiality retained for both the Mid-Atlantic and New England, and so those last ones really provide the focus and provide a number of at least the core species that were identified as beginning to show up more significantly in the statistics, and so the last sections are the ones that, from the council meeting, that we have generated and been able to show and do have some focus on where we are right now, and that's pretty much it. I just wanted to make that clear, and that's actually included as an additional attachment separately beyond the presentation, if you want to look at the individual species.

DR. LANEY: Thank you, Roger and Gregg. Are there questions for Gregg or Roger, or comments?

MR. WAUGH: Then we can move into just a quick overview of what we're trying to do here today. We have had this small group talk about this, and the idea was to pull people together, and we've had quite a bit of turnover on our council, and so to give our council members a chance to

weigh-in on this as well, but the ultimate goal was to try and reach some sort of agreement on an approach and timeframe for how we deal with this issue as these species continue to move forward.

We talked about the approach of one council extending its jurisdiction and giving voting rights at the committee level for the others, and we talked about needing guidance on which species to approach, and, if we were to extend management for the mackerels and cobia to the New England, how many seats would they think is fair to have on our Mackerel Committee, and, right now, the Mid-Atlantic has two, and I think I mentioned before that New England and the Mid-Atlantic have one voting seat on our Dolphin Wahoo Committee.

Then, towards the end of today, some guidance on how we move forward from here, in terms of this CCC group and ASMFC coordinating, and do we want to continue to have discussions? How should that work going forward? Then there are some issues that we need to address as we talk about this. In terms of data collection and monitoring, at the NRCC meeting, the agreement was the Northeast Center and the Southeast Center would get together, the Northeast Region and the Southeast Region would get together, and talk about how the data systems need to be ready to pick up these species as they move forward, and so those talks are ongoing, and they are supposed to involve some representation from the councils as we move forward.

SEAMAP and NEMAP are already coordinating, talking about coordinating, some of the fisheries-independent work, and so the data collection and monitoring is one topic, and management is obviously the meat of this, how do we coordinate this in state and federal waters, as well as across our jurisdictional areas in federal waters, and then the remaining two items -- Permits, we've got a little bit of information in here about our permitting system, but, when we went to talk about extending snapper grouper management through the Mid-Atlantic, one of the big hang-ups was permitting and EFH, and so this group may want to talk about setting those aside, if you will, and allow each council to deal with permitting in their area and dealing with EFH in their area, as they do.

This would be similar to how we operate now with the Gulf Council, where they allocate a portion of the Gulf cobia stock to the Florida east coast, and then we manage it the rest of the way. It's the same thing we've been doing with Gulf migratory group king mackerel, when a portion of that was on the Florida east coast, and so, should we go down this approach, we could allocate a portion of the ACL for king, Spanish, and shortly we won't have cobia anymore, and thanks, Bob, for picking that up for us.

If we allocate a portion of the ACL, for instance, to New England and the Mid-Atlantic for king and Spanish, then they would determine how they're going to manage that portion and that they determine the permitting requirements and determine whether any adjustments need to be made to EFH designations, but it's just a feeling that those two items could be a deal-stopper from the outset. Mr. Chair, that's an overview, and, again, we would be glad to answer any questions before we get into our open discussion. Thank you.

DR. LANEY: Okay. Thank you, Gregg. Any questions or comments in response to Gregg's overview presentation? Seeing no hands, then I would suggest that we just go ahead and follow the agenda, and we'll go to the New England Fishery Management Council and Dr. Quinn, Mr. Stockwell, and Mr. Nies, and I don't know who wants to start down there, but go for it.

DR. QUINN: Thank you very much, and I first want to thank you for hosting this, and it was really a good idea to get the three councils together. One thing missing in the presentation is the Mid-Atlantic/New England species that move, and certainly you guys are the host, but we've got the identical issues up the coast a little bit, and so, if we're going to have a broader discussion, while the three councils are here, maybe we can talk about that a little bit as well.

We are looking at this as a listen-and-learn session for us, coming down here and hearing about your species. As I said, we've got the same issues up our way. We do have a couple of jointly-managed plans with the Mid-Atlantic, and we have generous representation on each other's committees, several of the committees that the stocks are in both areas of jurisdiction, and so we're looking forward to talking about all of these issues today with the entire group.

DR. LANEY: Go ahead, Mr. Luisi.

MR. LUISI: Thank you, Mr. Chairman. I won't restate what John just mentioned, but certainly we're looking forward to the conversation today. I do want to be somewhat clear. I think, Gregg, you mentioned that you were hoping that we would get some form of agreement today on an approach, and, in talking with Chris a little bit, I would be more comfortable having the discussion today and then perhaps bringing back to our council different paths that we could take, so we can have that discussion with the Mid, rather than coming up with a formal agreement today, but I certainly look forward to the conversation, and I think Chris Moore might have a little something to add, Mr. Chairman.

DR. MOORE: It's a pleasure to be back in the South Atlantic again and see some friends that I haven't seen for a long time, and thank you, certainly, to the South Atlantic Council for inviting us here today to talk about, I think, a very important topic. The Mid-Atlantic Council has been involved with climate change in fisheries for a while. About five or six years ago, we had a series of workshops, and we had a governance workshop, and we also had a science workshop, and, if folks haven't seen the results of those workshops, then you can find them on our website.

The South Atlantic Council was invited to those workshops and participated. At that time, we were experiencing, or starting to experience, the effects of climate change on fisheries in the Mid, and I remember, very pointedly, that the South Atlantic Council representatives basically said, at that time, we didn't really see any problems here in the South Atlantic, and so, obviously, things have sort of matured and changed over that time period.

In our discussion today, if it would be possible, Mr. Chair and Gregg, if we could kind of bin things into like science things, or initiatives, and maybe policy directives that we could talk about, and, to get into management and governance, I think that would be useful, and I think, when I talk about science initiatives, I just want to mention the fact that we have these data issues.

Gregg mentioned that Gregg and Charlie were at a meeting, NRCC meeting, a couple of years ago, and we talked about the lack of data on some of the species that were moving into the Mid from the South Atlantic, and so we worked with South Atlantic staff and GARFO staff to add twenty-one species from the Snapper Grouper FMP to our vessel trip reports, and so, in the Mid, anyone that has a Mid-Atlantic permit is required to submit a vessel trip report, and these species were not on that vessel trip report, and fishermen were catching these species and not reporting them, and now they are, and so I think that will help us, in terms of the data issues.

In terms of just the policy directives, we have a DAFM document that we put together, guidance document, and we rely on the Center each year now to come to our council meeting and present a Mid-Atlantic State of the Ecosystem Report that we tie into our ecosystem work and look at it from a risk assessment point of view and see what we need to do in response to that, and so there's a lot going on in the Mid-Atlantic, and, Mr. Chair, I would be glad to have a member of my staff come down here, when you guys are ready, to talk about all of this stuff, not because we know what we're doing, but maybe because it might generate some ideas for you all down here as well.

DR. LANEY: Thank you, Chris.

MR. BEAL: I don't have prepared comments, but just some initial thoughts. The moving species is a little bit easier for ASMFC to deal with, in that all the -- We have all the member states, from Maine through Florida, and so, usually when I talk about climate change, if I had a presentation, I would have a cool picture of a guy giving a big giant bearhug to a red drum that he caught off of Cape Cod, Massachusetts. If red drum really persisted and were in Massachusetts in large numbers, ASMFC could add Massachusetts to their Red Drum Management Board.

We have got the ability to kind of move states around and do things that the councils don't have, and that provides some flexibility for us, which is great, but nine of the twenty-seven species that we manage are jointly managed or complementary managed with the councils, the Mid and New England primarily, and so we've got to figure out what is the right role for ASMFC in those jointly-managed species, and Tom Nies and I have had some conversations about defining roles in Atlantic herring management, and so we kind of -- The thing that we probably can't do is, as a group of three councils and one commission, is sort of duplicate effort and trip over each other and compete and all those things. Most of us don't have time to get the work done that we need to do anyway, but, duplicating effort that someone else is doing, we surely don't have time for that, and so we need to figure out the right governance structure there.

The last point that I think I will make, and I can speak more later, is that I think there is growing interest in sorting out the governance structure, and Senator Blumenthal from Connecticut introduced the SHIFT Act at the end of the last Congress, and I think, from what I have heard on Capitol Hill, similar language, or that specific language, may come back again.

New York has sued NOAA Fisheries over allocations for summer flounder, and so we're I'm going with all of that is I think, collectively, the three councils and the commission need to kind of sort this out and figure out what structure works best, or someone else is going to kind of do it for us, either our elected officials or a judge, and that may be -- That may not be the outcome that we really want, and I think we can -- If we can figure it out in this venue, working together with three councils and one commission, I think that will be a much better outcome and a much more predictable outcome for the fishermen and for all the managers, if we can sort that out here rather than have it sorted out for us.

I have a lot of other random thoughts on this, but I think that the conversations that we've had at the NRCC, when the South Atlantic Council came up to that meeting, I think those type of conversations are good, and we have had some leadership conversations between ASMFC and the Mid and ASMFC and New England, and I think all those conversations moved the ball forward incrementally, maybe not as far and as fast as we want, but I think we need to sort out the roles of

the four entities and try to define those as well as possible, and so those are my initial thoughts anyway.

DR. LANEY: Thank you, Bob.

MS. MCCAWLEY: We haven't had a lot of chance to discuss this, and we have a number of new council members, and I think that I'm looking forward to the discussions today to try to figure out what the South Atlantic folks might want, as well as what our neighbors to the north might want, and I think that, like the other two councils, we need to discuss this more within our council, but I think that we would be comfortable extending our plans up there and allowing seats on our committees, I think, but, once again, I don't know if I speak for the whole council, since we have a number of new members.

DR. LANEY: Gregg and Roger, any comments in this particular thing? I think you've already given us a pretty good overview, and so we'll just toss it open then for general discussion. I will echo what everybody else has said, and there is certainly a need for this, and, from my perspective, as someone who has been tagging striped bass in the ocean since 1992, and from discussions with my North Carolina colleagues, it may be that striped bass are a good example of a species that has shifted its distribution north and offshore, and we have certainly found that to be the case when we're out there in the wintertime chasing those fish and trying to put tags on them.

Based on a conversation with Mr. Poland and Ms. Beckwith this morning, North Carolina has an allocation in three different fisheries, gillnets, haul seines, and trawls, offshore, and has not landed a striped bass, we were figuring, for eight years now, I think, since 2011, and those fish have just shifted their distribution north and further offshore, and so there are obviously implications there. I can't say that that's definitely climate-change related, but it certainly could be, and so, with that, I will toss it open for discussion, and who wants to go first?

MR. ELLIOTT: One of the things that I have struggled with, and I'm a layperson from the great coastal state of Pennsylvania, and so one of the things that I struggle -- Folks in my state, believe me, they don't even think that climate change is happening, and so it's an interesting dynamic, but one of the things that I struggle with is what determines -- I struggle with expansion versus shift, species expansion versus species shift, and I don't know if this is a fair question for Roger or for Gregg or your thoughts, but what determines if a stock is just expanding or if it's actually shifting and leaving one area for the other, and how do we quantify that, and what data do we have to support that, and then do we treat those two instances differently, as councils? Is it one thing just to have fish moving into our area, but not leaving the other, or, if it's leaving and moving, and what are your thoughts on that?

MR. WAUGH: I think this is why, when we started in this process, I think Erik Williams was one that suggested using the terminology of moving northwards, to help get away from talking about range shift, and, to me, if you talk about expansion, then, if you want to use the striped bass example, then -- To me, if they were expanding their range, there would still be some in North Carolina, as they move northwards, but it appears that may be an example of them shifting, whereas, with cobia, that might be an example of expanding the range, because we certainly still have them down here, and they are showing up farther and farther north.

I think the scientists would probably feel more comfortable with talking about as these species move northwards, and, to me, that gets at the thrust of the problem. They are showing up where they haven't shown up before, and so we need to collect data and figure out how we're going to manage them, and there's less concern with the semantics of what type of movement.

MR. PUGLIESE: I think the key is that opening this discussion really sets the stage for us to use some of the capabilities with the fishery-independent surveys and with the ability to link with our partners at the oceanographic associations and NOAA on really determining what some of those differences are, because I think, from the beginning, everybody has understood, if the populations are building, and we have expansions, it's a very somewhat different concept, and what's going on may have implications of biomass between regions, whereas, if you have truly a shifting population, you're going to need to have things that actually capture that, and I think we are at the stage where everybody is thinking the right direction, but we just need to make sure that we engage and support those different groups that are collecting the information and modeling input and what we may see and set the stage for where we can be ahead of the curve, in terms of understanding what may come in the future.

I think it's very -- Everybody is very understanding, and I look at something like red drum as being an expansion of the range. The population has built and expanded all the way up into historic areas, into New Jersey and areas that back in the past were there, and then they rebuild and extend, and so I think it's understanding what the differences are and setting the stage and setting the ability to capture them in the surveys and to identify and characterize them through the fishery-independent and other collaborative work and to understand the oceanographic capabilities.

I think, in the New England area, with their ability to look at everything from oceanographic to prey to species as a package and how they move, that was a very powerful tool to be able to look at in combination, and so this discussion will advance how we collaborate on making the clarification between those different types of situations.

DR. LANEY: Thank you, Roger and Gregg.

DR. PORCH: Sorry, Gregg, but I have to say it. Erik actually said the opposite of that. He supports using terms like "range contraction" or "expansion", or just "changes in distribution", but the important point is that it is quite possible, for some species, that the same factors that would cause a species to move north could also cause them to move away from the south, and it just depends on the species and the biology of the animal.

I think the key thing is the entities that do the fishery-independent surveys in the New England and Mid-Atlantic Fishery Management Council jurisdictions and the South Atlantic Fishery Management Council jurisdictions need to start working together and have probably a survey with a common methodology that gets at as many of these species as possible.

DR. LANEY: A follow-up?

MR. PUGLIESE: Very specific to that, I think the discussion we had about the ability to cross-walk between SEAMAP and NEMAP, and SEAMAP really is an umbrella, with connection with our MARMAP system, and we're setting the stage for some of those deliberations already, and we have a liaison with the NEMAP program, and, the ability to really capture those, I think this is the

opportunity to fully support both sides and how critical that is, because I think that's going to be the key to understanding not just the species, but we really have to get to the point where those environmental parameters being collected in those surveys are also connected into programs, such as SECOORA, et cetera, so that we can really look at the environmental drivers that may be seen.

The real point I was going to make was something -- When we first started this discussion in the South Atlantic, going all the way back to the deliberations in the governance meeting, one of the things we highlighted is, and it gets right to one of your points, is, in the Southeast, we are seeing events -- The episodic events are becoming an important driver in our region. One of the more significant ones off of Florida is the increased upwelling events that have occurred, and what we've seen with that is -- I would say it's an expansion further south of black sea bass, because of some of the temperature and the suitability of habitat, and so it's a different variation on theme, but it is exactly what you're talking about. That's a movement, but it's a movement in a different direction, because of other driven episodic events like upwelling.

DR. LANEY: Thank you, Roger, and, again, I will refer you all to the Plaganyi summary of the Fine et al. article, which Kelly just sent around for us this morning, but they pointed out that temperature had a highly-variable influence on different species, with evidence for both negative and positive changes in productivity, in addition to the range shifts, and then the other thing she says is that improving the accuracy of current assessments and future projections is critical to informing, planning, and adaptation strategies. I know we all agree and know that.

MR. BELL: I was just going to say that I think the most difficult piece, from where I'm sitting, is just making sure that our data collection efforts, be they fishery-dependent or fishery-independent data, can go across these boundaries that we have, these programmatic boundaries, but making sure that we've got good connectivity with our data across, and that's probably a little more difficult to make sure we've got up and running and the proper connectivity and we're collecting the same data, whether it's environmental data associated with things that Wilson was just talking about.

That's probably the hardest part, and the simple part is really, I think from a perspective of the governance, is we've drawn these lines that are established in Magnuson for different lines, and so, okay, now the resources are moving across these lines, and so it's fairly simple to move people. We can have representation on appropriate committees across boundaries, and that's fairly straightforward, and, of course, we're not expecting an agreement here, and I get what Mike was saying about we need to go back and kind of run options by folks and not committing to anything, but that piece is, I would think, fairly simple.

The more difficult part is making sure that our data collection abilities across these boundaries are better and we've got a picture, a common picture, of what's going on, from both the environmental perspective as well as what the resources are doing, and whether we call it a range shift or expansion, but the fact is that the resources are presenting themselves in somebody else's backyard now, and they're there and available for use, but the hardest part is probably, I think, getting all these different data collection aspects together and kind of on a common theme and connecting, and that's my take on it.

DR. LANEY: Thank you, Mel, and I will just note, for the record, although all of you are well aware of it, ACCSP put together those common data collection standards a number of years ago, and so those are out there and hopefully being used.

MR. DILERNIA: Actually, I have a question, and then I would like to build on the response, and my question would be to Mr. Beal. You had mentioned, a bit tongue-in-cheek, if the State of Massachusetts wanted to be included in say the Red Drum Plan, and would be the process that would occur, should the State of Massachusetts decide they wanted to do that? Is there a process that has to be followed?

MR. BEAL: Tony, if a state wants to be added to a management board in the ASMFC process, they petition or request that of the Policy Board, which is all fifteen states, and the Policy Board makes a decision to add or subtract individual states from management boards, and so it's a pretty simple process, and I don't think the Policy Board has ever denied any request by a state to be added to a board.

I think the most recent change we had was Pennsylvania. The ocean state of Pennsylvania was added to the Menhaden Management Board, and they showed some historic menhaden present in rivers in some historic data, and the Policy Board accepted them and added them to the Menhaden Board, and so it's a pretty open process and very efficient to make changes.

MR. DILERNIA: Thank you, and so there's no thresholds, as far as participation is concerned, number of fish landed, pounds of commercial fishery, activity of the recreational community, and none of those thresholds actually exist in the evaluation of a state's petition for admission?

MR. BEAL: No, there's no specific threshold, other than evidence that that species did appear in that state's waters at one time, and that's the only threshold. States oftentimes don't want to be involved with too many management boards, because there is a burden of potentially implementing regulations on very small fisheries and doing annual reports on that fishery and other things to the commission, and so there is a burden that goes with participating on a board as well as a potential benefit, if you're looking toward allocation or something else.

MR. DILERNIA: Thank you very much. My statement, if I may, Mr. Chairman, my comment is what this really gets down to is fishermen and regions, states, want to manage what is in the waters offshore of their area. We in the Mid-Atlantic see more and more South Atlantic species coming into our area, and we would like the ability to manage them. At the same time, the body that manages them is -- There is some concern about giving up some of the control that would occur in the management, and that's the bottom line, if we really get to it.

As a fisherman, I want to manage what's in the waters offshore of where I fish, and the folks that manage it are concerned about giving up some of that control, and that's what this all really comes down to. I suggest, as we go forward, we should look at how the species were originally distributed to the various councils. When the Act was first passed, there were some meetings, and there were decisions that certain species would be assigned to different councils.

Well, what was that process? I have an idea what that process was, but I haven't researched it thoroughly yet, and I would suggest that perhaps, as we go forward, that we may want to research that process and see if that process applies to the situation here. It may be the re-assigning of some

species to different council areas or commissions, or there may be the addition or inclusion of different states in these management bodies.

Having representation on the committee is good, but, once the committee report goes to the Full Council, things could change, and sometimes that's not something that a state that is petitioning to be able to manage would like to see happen, and so I would suggest that we take a look at how the species were originally assigned to the councils and see if that process still applies, and if it does, perhaps reexamine the species compositions on the east coast at this point. Thank you.

DR. LANEY: Thank you, Tony.

MR. SAPP: I just had a fisherman's perspective on the North Carolina striped bass scenario. It's been my experience that, if you thump a species on the head hard enough for long enough, like it sounds like that net program has, they are going to find somewhere better to live, and, speaking to my few North Carolina buddies that I do talk to, it sounds like they are seeing that striped bass further offshore than they ever have in the past, and so I think that's more of a pressure scenario pushing that fish to other places.

DR. LANEY: Thank you, Art. It could well be, and so some of you remember Jim Price. Jim and I argued for years over whether it was temperature versus prey distribution that was driving the striped bass change, and, for temperature, we have data for prey distribution, and we don't have very many data during the wintertime.

MR. STOCKWELL: Thank you, Gregg and the South Atlantic Council, for hosting us here today. From my perspective, we've been dancing around this issue for years. The take-home, following up the Mid-Atlantic Council's workshops on climate change, were what are the next steps for management and how are we going to develop the guidance? We have talked today, and Tony just made a couple of points that I was going to make, but we've also talked about council-to-council and council-to-commission, and my biggest issue is, as these stocks move around, and particularly in the Northeast, we have limited access fisheries.

As the stocks in the Mid-Atlantic migrate to the Northeast, or stocks from the South Atlantic migrate towards the Mid-Atlantic, how are we going to re-adjust these limited access fisheries? If we couple them to the state-by-state quotas that you folks deal with, we don't deal with that in the Northeast, and it gets very complicated.

As Bob was saying, we're just starting to tiptoe down some collaborations with the commission on the joint management of Atlantic herring, and so I think today's conversations are a good start. From my perspective, a couple more committee members here or there is a nice start, but it doesn't really address the issues, because, if New England or the Mid-Atlantic is given a second or a third membership in a committee that the council as a whole really has nothing to do with, it doesn't address the fundamental issue of the reallocations, and so I know we're not going to get there today, but I would like to keep that out on our radar.

DR. LANEY: Thank you, Terry. Are there others, other comments or concerns? I would just say that I certainly concur with Mr. Moore's admonition that we need to talk about the science in addition to the governance, for sure.

MR. NIES: I would point out that if you keep holding meetings in Jekyll Island that we won't have any problem finding volunteers to be on your committees. Just yesterday, I was made aware of an effort going on in the Pacific Council that might be something we want to look at and may learn from. I believe they've been working with a group, and I believe, at their meeting next week, they're talking about a scenario planning exercise.

I guess what I struggle with is when we talk about assigning people to various committees, and it's unclear to me what the objective is. I mean, are we just trying to make sure that other people are represented? Do we think this is somehow going to improve our management of these somehow, and in what way, and what are we trying to do with the management of these species?

Some managed species have state-by-state allocations under some management plans. Is the goal to protect those state-by-state allocations, or is the goal to somehow allow those to be fluid? This is all a round-about way of getting to the thing that I think we should, and I'm not prepared to go into detail today, but I think we should take a look at what the Pacific Council is doing, because my understanding is, if they move forward on this scenario planning exercise, the basic idea is to try and identify what conditions are possible in the future and what are common management approaches that might work under any of those scenarios that they think are possible, so that you know what it is you're trying to design your management system for.

Now, this is going to be probably a difficult exercise to undertake when you have three councils, and I don't know how many states, and plus the Atlantic States Marine Fisheries Commission, as opposed to doing this with three states and one council, but I think it may be worthwhile, taking a look at that and seeing if that's a step we should do, so that we know what it is that we're trying to accomplish when we start talking about sharing management across jurisdictions.

DR. LANEY: Thank you, Tom. Good points.

DR. MOORE: I want to bring it back to the data issue, and I want to touch on what Mel said about surveys. I understand, from my conversations with John Hare, who is the Science Center Director for the Northeast, that the Northeast Center is working closely with the Southeast Center to put together a workshop that will be titled "Atlantic Coast Science Coordination Workshop", and so the details of that workshop are just now starting to -- They're in draft, and I'm not sure if they're ready to be shared yet with folks, but the plan was to have this workshop sometime in 2019. That workshop would address a number of the science issues that would be important for consideration as we consider what to do with these shifts in distribution or range expansions.

One of the things that I remembered, in listening to Mel, is that we do really need to talk about surveys, and one of the problems that we're starting to encounter in the Mid is the fact that we have a number of planned wind farms to be placed in areas that have traditionally were used for trawl surveys, and so there might be some emphasis now on fixed-gear surveys, which I think is something that supports the South Atlantic Council decision, and so we'll be hearing more about that as time goes on, but I would just let this council know that there is this workshop being planned. Again, it involves both Science Centers and consideration of climate change in fisheries, and, as time goes on, I'm sure you'll hear more about that, in terms of the details. Thank you.

DR. LANEY: Thank you, Chris. Next?

MR. BEAL: The reality of all this stuff is, as Tom had mentioned, there is three councils, fifteen states, one ASMFC thing, and that has different management authority than the interstate commission on the other coast, and so, for better or worse, the east coast has the most complex management program in the whole country, and so we can't really look to too many others for examples on how to get out of the mess we're in and the tricky spots we're in, and so I think we're all we've got, and we've got to figure it out.

Allocation is hard, no matter how you do it, and reallocation is even worse. Reallocation, no matter how you look at it, you create -- Somebody is going to get more fish, and somebody is going to get less fish, and, for a group of council members, or commission members, or states, whoever it is, to come to a meeting and take a vote that may likely reduce the amount of fish that they have access to in future years, that's not an easy thing to do, and, in fact, it's probably impossible, in some venues, and so we need to create some formulaic approaches or other creative ways that individual states and members don't have to come in and raise their hand in favor of their state or their gear type or whatever it is losing access or allocation to fish, and that's a pretty tough thing to do.

ASMFC gets stuck in the middle, sometimes, of -- I think black sea bass is a perfect example that we're going to talk about tomorrow or Thursday, with the Mid-Atlantic Council and some of the black sea bass -- There is a great density of those fish right now in Connecticut, Rhode Island, and Massachusetts, but the Mid-Atlantic Council has an FMP, and so does ASMFC. The southern New England states are saying, well, we're not really represented fully on the council, and so maybe ASMFC should be the allocation group.

The Mid, rightfully so as well, says we're the lead entity here, and seventy-some percent of those landings are coming out of federal waters, and so we feel like we should be the allocation group, and so we end up with this kind of push and pull and states kind of -- It's kind of a -- It's not a real complimentary term, but states do some venue shopping and go to the commission or go to the council if they think they're going to get a better deal there, and it just creates a tension between different management entities, and it's a tough thing to work through, and there's some members of the commission that have even suggested that we need to use an independent group that is solely based on -- It looks at science, and it looks at distribution of animals, and it isn't made up of states, and it isn't made up of council members that have to vote their way, and it's kind of like the -- It's been sort of compared to the military base -- What it's called, the BRAC Committee, the Base Realignment and Closing Committee, and that's completely independent.

It doesn't involve individuals that are stationed at those bases that may lose funding or lose a lot of residents in their state or their area or economic impact, and so some folks are saying that we don't even have the structure or the ability at the commission and councils to reallocate, which is a pretty tough thing to say, but that's kind of where we are.

There is people saying -- We have been trying to reallocate a lot of species for a number of years, and we've been working with the Mid on summer flounder reallocation for three or four years, and there's a lot of reasons, and I'm not critical of that, but there is a lot of reasons it hasn't moved forward, and that's how we ended up with a lawsuit from New York, and so I think this is pretty tough stuff to figure out, and I'm not sure -- I don't know, and maybe I'm just pointing out the obvious, but I'm not sure how we get out of that kind of bind that we're in with all the management entities that we have along the coast.

DR. LANEY: Thank you, Bob.

MR. LUISI: To Bob's point, we have to make tough decisions all the time, and this is not easy work that we do, and the tensions that come with those decisions are -- They stress you out sometimes. As partnerships develop, and you come to a point where you're working jointly with another body, like the Mid works with ASMFC, in my opinion, it would be best to release those who gets to do what type of tensions through a very clearly and well-defined role with the different groups.

If you have a joint plan, you should be working jointly, and actions should be taken in parallel with one another. The situation that Bob just mentioned with black sea bass is one for which the commission, members of the commission, feel they should have the ability to manipulate -- Not manipulate, but change black sea bass allocation commercially throughout the range of the stock, and I think there are going to be council members that are going to have a difference of opinion, and that, as Bob mentioned, will be a conversation that we plan to have on Thursday with the commission and the Summer Flounder, Black Sea Bass, Scup Board.

I guess the point I'm trying to make is that I think, as we develop partnerships, whether they are through committee work or through joint plans with the different councils along the east coast, or with the commission, the roles need to be very well defined, almost extremely defined, so that you release those tensions about who is doing what and who has what ability, as far as making management decisions, without the other partner involved, and I will leave it at that. Thank you, Mr. Chairman.

DR. LANEY: Thank you, Mike. I will say that I certainly agree with Bob's depiction of the complexity of management on the east coast, and, when you add species, such as the whole diadromous suite of species that are normally under ASMFC management, except when they are federally listed, it gets even more complex, because you have to deal with multiple habitats and multiple life stages. Does anyone else want to weigh-in?

MR. HEMILRIGHT: This is a pretty complex issue, with migratory patterns of fish changing, and one of the things that I have always learned is, if it's not observed by observers, if it's not recorded in logbooks or VTRs, it didn't happen, from the commercial side, and so these species -- How is the data recorded, whether it be MRIP, and, in the Mid-Atlantic, we have problems with MRIP, to where we had to use another process, because we had all zeroes.

As we're moving forward, and these species are showing up, to what magnitude are they showing up in the Mid-Atlantic or New England, and how is that recorded, so that we can determine, well, what magnitude is the landings showing up, and so that's something that I would like to see over all three areas, the species that you all put here on the Mid-Atlantic and the South Atlantic here on the chart earlier, and I was just curious as to what's the landing amounts from the Mid-Atlantic or the Northeast that these species showed up, and what was the data point where they come from to show that amount, because, if it's not in our logbooks and observed and all that stuff, how are we going to get recordings for it? Thank you.

DR. LANEY: Thank you, Dewey. I think Gregg can address your question, and that's an excellent point, but the way. If it isn't observed, then it didn't happen.

MR. WAUGH: Dewey, the landings we pulled together are from ACCSP, the commercial data, and from MRIP on the recreational side, and Roger will be glad to get with you one-on-one and go through that, so you can see those levels, but, yes, those are recorded data in our commercial and recreational statistical programs.

DR. LANEY: Thank you, Gregg. Someone else?

MR. GRINER: Just kind of following up on what Dewey said, to me, that's really the heart of the issue there. Before we can look at sharing management, we have to be able to share the science and be comfortable that the data is accepted and that everybody agrees on it and that it is the best available science.

Without that, I don't know how you could ever even begin to look at allocations, or reallocations, until you can get to the level where the various SSCs or whatever is looking at this data have the same confidence in the MRIP, or wherever these data points are coming from, whether they be from the commercial sector, but I really think that, until you figure out who is going to drive the science part of this, whether it's going to have to be some type of collaboration between the two Science Centers or exactly how that's done -- Until you can get that piece of it worked out and be comfortable with that, I don't see how you can really get much further with sharing management.

DR. LANEY: Tim, I certainly agree. Good point. Are there other comments?

DR. MOORE: Dewey's point is exactly why we added the twenty-one species of snapper grouper to the vessel trip reports in the Mid. We could provide a list of those species, and I don't have it in front of me, but I think, again, it's an important issue, and obviously we wanted to be able to track those species.

The other thing that we ask GARFO to do for us every year is basically come to the council and give us a list of unmanaged species landings in the Mid, and so the tracking through vessel trip reports, maybe, or the tracking through the port agents, but unusual events, and so it serves our council, by providing an early-warning system, if you will, in terms of what we might expect, and so that's been helpful as well, and maybe something that you guys want to think about down here.

DR. LANEY: Thank you, Chris. Are there other comments? I will just say that I had heard -- I had a conversation with Rick last night about the point that Bob was making about, and I think it was Bob, about the wind farms and the potential impact on fishery-independent sampling programs, and it is a big challenge, from a resource perspective as well.

Again, going back to striped bass, which is the example that I know best, we used to trawl for that species and tag it for years and years and years, and, that way, we got information on the whole community, even though, in the early years, they weren't documenting everything they caught, but we basically moved to a hook-and-line tagging program in 2011, simply because it costs a lot less, but the disadvantage is you only catch that one species, and you don't get any information on anything else that is out there during the wintertime. Are there other comments? The suggestion has been made that we go ahead and take a fifteen-minute break, and so I have 9:37 on my computer, and so let's reconvene in fifteen minutes.

(Whereupon, a recess was taken.)

DR. LANEY: Let's get back to the table here. I am going to recognize Mr. Waugh to give you a summary of our brainstorming session that we had up at the front here during the last break.

MR. WAUGH: Thank you, Mr. Chairman. We had a good, vigorous discussion, and I think it recognizes the reality of where we are in this country and in our decision-making process. I always felt the idea of being able to extend the management jurisdiction to another council and give a couple of seats at the committee level -- That that was perhaps an overly simplistic approach to a complex solution, and I think that's what we're running up against.

Based on the discussions that we had, what we were hearing was a need for a couple of groups to do some more work, and, on the science and data side, that is an appropriate area for the agency to take more of a lead on, and the Centers already have a workshop planned. We the councils would like to be involved in that process, and we want to see the existing fishery-independent programs, SEAMAP and NEMAP and SAFIS and state programs, continued and talk about how those are going to be continued and addressed, to make sure that species are picked up, and so we're looking for a role in those workshops, Clay, when they are scheduled.

Julia Byrd, who is our new Citizen Science Program Manager, mentioned too that there is work that the citizen science group has been doing, and there's a program out of Australia called Redmap that is used to allow members of the public to sort of serve as an early-warning system for when species start to show up in the areas where they haven't before, and so there is some work ongoing there, and we would like to see that sort of included in that group, or recognized, so that that would be addressing the science and data issues that several people had mentioned.

Then, on the governance side, I think we have to be frank and honest and open and recognize that, if, at the end of the day, every group has to vote on the final decision, that means joint plans. We talked about going back and looking at how the original designations as to which council managed which species, and that gets you back into asking the Secretary to re-designate lead, true lead, administrative lead, and that may be where we have to go, but we also heard about the Pacific's work, and it was mentioned of looking at a scenario planning exercise, and so we thought, if we had -- In terms of governance, that might be a role that this CCC group, with ASMFC's participation, could continue working on the governance side and look at how the original designations were done and look at this scenario planning exercise and look at the process used to evaluate which military bases were closed, and so examine those and have the CCC ASMFC group -- They could designate some of their respective staffs to sort of serve as a workgroup that would flesh out these things and do the details, and then that CCC ASMFC group could talk about it and serve as sort of an initial decision-making group, recognizing that whatever was agreed to forward has to go to each respective council and to ASMFC.

We saw that as a way of addressing the comments and concerns that were raised and keep this process moving forward, and so we wanted to surface that and spend a little time talking about that, in terms of how we move forward, and see if that's something that the group feels comfortable exploring.

DR. LANEY: Okay. Reactions to that? Anybody like those ideas or have any better ideas?

MR. STOCKWELL: Thank you, Mr. Chairman. I appreciate you all putting some thought into this to help give us some next steps, and I am curious though about using the entire CCC to collaborate with ASMFC, and perhaps we should re-think that into a sub-section of this group to work on these issues, to begin with, rather than involving the West Coast and the Pacific and the Caribbean.

MR. WAUGH: Terry, just to clarify, we were thinking that this would be a sub-group of the New England, Mid-Atlantic and Sub-Atlantic, the Chair, Vice Chair, and ED. When I said CCC, that's what I was referring to, and sorry, and not the full CCC.

MR. STOCKWELL: Thank you.

DR. LANEY: Thank you. Go ahead, Mr. Luisi.

MR. LUISI: Thank you, Mr. Chairman. That was my question, and it was already answered. Thank you.

DR. LANEY: Okay. Great, and so we got two bird with one stone then.

MR. BEAL: I think there is a CCC meeting in Hawaii coming up, and so maybe we want to re-think that, and we'll continue to talk about it, but I support those continued conversations. One venue that we may be able to tap into pretty easily is the CCC meeting is occurring in Charleston in May, and then the NRCC is meeting the day-and-a-half following the CCC meeting, and so, if the leadership of this council wants to hang around and maybe have some conversations with the NRCC -- We haven't done the agenda for NRCC, but maybe a couple of hours to have that conversation might be worthwhile.

Before we broke, I had my hand up, and I think I came across maybe as a negative-nelly this morning, and I didn't mean to, but there are some things going in our favor, which is the congressional budget this year -- The council and commission line is up 12 percent, and some of that -- There is some report language in the budget that indicates that some of that increase should be used to look at moving species and high-priority species and those sorts of things, and so those new dollars haven't been allocated to the councils and commissions yet, but, theoretically, there should be more resources around to help out with some of these meetings and pull together some of these groups, and so I think that's a positive as well.

The other thing that always strikes me is the staff-to-staff communication between ASMFC and the three councils, and I can't speak council-to-council, but I know, from ASMFC, transitioning cobia, working with Christina and others, that worked really well. I think my staff and the Mid are in communication, and New England, and so I think the staff-to-staff part works very well, and I think those folks are -- We are all lucky that we've got some really bright, talented staff that can help us work through some of these problems, and they work well together, and so that's a step in the right direction. Once we get the bigger group to figure out, the NRCC and CCC group to figure out, the direction, I think we've got the staff support to move us in whatever direction we decide, and so that part is definitely in our favor.

DR. LANEY: Thanks, Bob, and I will echo your comments about staff-to-staff. Because of my work with diadromous species, I'm in a unique position of being able to work with the staff of all

three councils on the east coast, and I will attest to the fact that they're all great folks to work with, highly competent and very skilled people, and so it's a joy to be able to work with those folks. Any other comments?

DR. MOORE: Gregg, when you were laying out a possibility for future engagement, I'm a little confused about the part that relates to a task that this group would undertake, and specifically the part that you referenced, which I think you said, basically, the group could revisit how all these species were allocated to various councils. That seems, to me, that that, to some folks, may be a non-starter, if we start that, and I think maybe looking at the alternatives that you put together for Table 5 I think might be a better start for that group, understanding that, yes, if we could control everything, we might want to shift some species around, but understanding that that might be a very difficult task, and, instead, focusing on the alternatives that I think are well laid out in that table might be a better way to go.

MR. WAUGH: I agree with that suggestion, Chris, and I think I was trying to reflect what was suggested, and I think it was Tony that made that suggestion, going back to the original, and not to put Tony on the spot, but, to me, if you go that route, what you're talking is petitioning the Secretary of who is designated as the lead, and, I mean, when we started talking about this, I think that was something that everybody wanted to avoid. I have no problem not pursuing that in great detail, because I think that's just going to lead to a political process for a solution, a top-down solution, that probably none of us will be happy with.

DR. LANEY: Thank you, Gregg. Are there other comments?

MR. DILERNIA: What I was trying to do was get to the root of the problem of who manages what, and that's really what we're all talking about, and we keep dancing around it, who is going to manage what, and, at the same time, no one wants to see their influence diminished. That is pretty clear, and I understand that. At the same time, there are folks that are dissatisfied with the current management strategy, and I understand that, also.

I am sure that there is a way that we could find -- There is a process that, if we work together, honestly and sincerely together, there is a way that could work towards including individuals in the management of the species that are offshore in their waters and, at the same time, not diminish the influence the individual councils have or the authorities that the individual councils have, and that's something that has to be addressed very delicately, but no council or commission or anyone wants to see their authority usurped, and they don't want to see their ability to influence the process diminished.

Council members want to -- People volunteer to become council members because they want to be active members in the process. They want to be able to contribute, and, if the council's ability to participate in a process becomes diminished, then the individual council members' ability becomes diminished, and so I believe there could be ways that we can solve this problem, but we just have to be very careful with how we go forward and, at the same time, address each other's needs without -- I guess we'll say diminishing our own needs and desires and preventing ourselves from becoming irrelevant.

It very quickly could become a process where one council or commission becomes very important and the other council or commission becomes irrelevant, and that's not what we're trying to do

here at all, and we have to be careful that we don't go down that road, but, at the same time, we have to address the concerns of those that want to be more included in the decision process. Thank you.

DR. LANEY: Thank you, Tony. Are there other comments?

DR. MOORE: I think the other thing that we need to consider is what Bob mentioned, which is that we do have this NRCC meeting that's going to follow the CCC meeting in May, and I think that, if this council is interested in continuing these discussions at a higher level, we will have all the right people there, and I would certainly endorse -- We have, we being Tom and Bob and I, have an ability to influence that agenda, and so, if this becomes one of the more important topics for our discussions, then we can make that happen.

Again, I'm not sure what we have listed for agenda topics in May, but certainly we can think about it. My point is this, that we're going to be there, and I think, if we brought in the Southeast Regional folks, and the Southeast Center folks were there, then we could have a good discussion about some of the science and governance stuff that we talked about today.

DR. LANEY: Thank you, Chris.

MR. WAUGH: Chris, I think that's an excellent suggestion. The logistics are going to be a little tricky, because we're also piggybacking a SEDAR Committee meeting on that Thursday afternoon and Friday morning, but I think it's a good opportunity that shouldn't be missed, and perhaps we could work with our respective councils and we can sort out how we could have some representation at that NRCC meeting, and when it comes up on the agenda might make it easier, but I personally think that's a great idea, and we shouldn't miss that opportunity.

Clay chairs our SEDAR Committee, and it involves our Chair, Vice Chair, and ED, and so we have the ability of getting some representation at the NRCC meeting as well, but, if that's something that Jessica or Mel or our group feel that we should pursue, I think it's a good opportunity, and I could work with you all on the agenda, and perhaps sometime on Friday would make it easier for our folks.

MS. MCCAWLEY: Just to add onto that, in thinking about this governance group, which is kind of like a CCC sub-committee plus ASMFC, I have some concerns, which I think others are sharing, that the committee only -- That CCC-specific meetings only come a couple of times a year. In my mind, in order to move this forward, we probably need to have this little sub-committee meet more frequently, maybe at a venue other than the venue that we're at right now, which would be in conjunction with somebody else's council meeting, whether it's ours or you all's council meetings, and so, if we need to meet some other way, whether that's via webinar, occasionally, or in person, so that we have more frequent meetings than a couple of times a year, I am certainly willing to do that, and that was what I saw going forward in my mind, and the next steps was, if we form this governance sub-committee, that they're going to meet more frequently outside of the CCC process.

DR. QUINN: Just getting back to the NRCC venue, we may want to consider having that -- We meet twice a year, and having this a guaranteed agenda item for every meeting of the NRCC, and if the South Atlantic can send a representative or not, but, at the very least, it will force us to revisit

the issue and look at the issue at the NRCC level twice a year, and so, if you've got the NRCC and the CCC, plus then you're talking -- At least it's on somebody's agenda five or six times a year.

DR. LANEY: Okay. Thank you, Dr. Quinn. Are there other comments?

MR. BEAL: I support the CCC plus or NRCC plus, whatever we're calling it, and I think the group is going to have to meet a few times, and I guess, by some strange twist of fate, I ended up as the Chair of the NRCC, and so I'm confident that we can get this on the agenda, no problem. Back to Mike Luisi's point earlier about defining everyone's roles, I think that's a -- To me anyway, that seems to be a key part of this, who is going to do what and what activities are jointly done, what are done individually by whatever management body, and I think that's a key part of this, because, right now, I think there's a struggle and, my term, turf war over who does what, and that just creates a tension between different groups, between two councils or between commission and council and that sort of thing.

I think defining the roles, so that there's not this venue shopping and other things going on, I think would be really helpful. Mike's words, I think, was partnership, and I think that's important. If we want to do some of these things in partnership between either two councils or the commission and a council, whatever it is, I think define those roles and establish that as an obligatory partnership, or whatever we want to call it, but something that we set the ground rules and we're all obligated to live by those rules and play by those rules, and I think that would be an important step moving forward, because then everyone knows, to Tony DiLernia's point, where their influence is and how they maintain their role and their responsibility and their influence over the outcomes of these decisions.

I guess going back to defining the roles seems to be a key theme, and, obviously, that easier said than done, and that takes a lot of consultation with the full councils and what does each council want to do and what does the commission want to do and where are our overlaps and those sorts of things, but I think that going through the exercise of defining those is probably worth the time and effort to do it.

DR. LANEY: Excellent point, Bob, and I like that term "obligatory partnership". That is sort of what ASMFC already is, is an obligatory partnership, after the Atlantic Coastal Fisheries -- Actually, after the Striped Bass Conservation Act. Are there other comments about obligatory partnerships?

MR. LUISI: I will just add to Bob's comments, and I have the unique position to be not only the council chair, but I also sit on various ASMFC boards, different species boards, as a proxy for our state director, and so I will say that, in my experience, those obligatory partnerships are awfully fragile, and it's important to keep in mind that you need to maintain that partnership, but you need to do it in a way where you are kind to one another and you listen to one another and the turf wars don't become so great that you can't get along.

The way we work our council with ASMFC, for summer flounder, let's say, is that we need to take joint actions on everything, but one group has a veto power over the other group, and so you can literally get nothing done if you can't get along, and those partnerships dissolve over time, and so keep it in mind, again, as we develop these partnerships, that there is a trust that goes along with it.

It depends on which hospitality suite you're in and who you're talking about. If you're in Bob's room, you are talking about the council members. If you're in Chris's room, everyone is bad-mouthing and trashing the guys on the board, and the women on the board, and so it's fragile. Keep that in the back of your mind as we work on this, and just know that it's extremely important that we have those partnerships, and I see that as the next step in addressing these climate issues and stock distribution issues. Thanks.

DR. LANEY: Thank you, Mr. Luisi, and I will return back to Dr. Moore's earlier comment too about science. Science is the foundation for any sort of a partnership, I think, or should be, and, to the extent that everybody can agree on the science and what the science is telling you, I think it makes it easier, even though it is a challenge, and there's no doubt about that, and it makes it easier to communicate with each other and to achieve some sort of common understanding if you've got good science underlying everything. Are there other comments? Are we done with this agenda topic? I am not seeing any other hands raised, and so, Madam Chairman, I guess, if we're through with this discussion -- Go ahead, Gregg.

MR. WAUGH: Thanks, everybody, for that input. We'll write this up and circulate it, but I think we've got a way forward now, with these two groups, and I will certainly work with Bob and Chris to make sure we get this on the NRCC agenda, and we'll have some representation there, but thanks again, everybody. We appreciate it.

DR. LANEY: Roger is checking to see if we are at a point where we can move on to the next agenda topic here, and so give us a minute.

MR. PUGLIESE: As I indicated earlier on, the main thrust of our discussion today was going to be a presentation by the Executive Director of the Ocean Observing Association, SECOORA, in the Southeast. She is probably not going to be online until 10:30, and so maybe a couple of minutes, but what I will do is dispense with a couple of things that I wanted to highlight on the habitat activities and the coordination with the regional partners, and a lot of it has a lot of relevance with what we're talking about in the broader context right now.

I think a couple of the most significant issues are that the activities that you're engaged in right now actually address some of the actions under the FEP II Implementation Plan and Roadmap, coordination between councils and species moving. There were discussions yesterday on some of the prey species that also align with some of the action items that were adopted under our Fishery Ecosystem Plan, and so those are moving and advancing a couple of key factors and actions that were identified previously.

There has been significant movement, finally, in the Southeast on advancement of a climate vulnerability analysis. The Southeast Fisheries Science Center Beaufort has reached out, and they're moving that forward, and so we're hopefully going to be able to see, finally, a vulnerability analysis for our region, something that I think drove a lot of the discussions and deliberations in the Mid-Atlantic and Northeast to have some of that information on what species to anticipate and see into the future, and so that is ongoing and advancing.

The activities that are going on at the national level, and I've had a recent reach-out from Roger Griffiths, the climate coordinator, reaffirming activities in the Mid-Atlantic and into the South

Atlantic using programs such as Ocean Adapt. We actually have linkages to that online system, through our FEP Dashboard, and that does provide good footprints of some of the species movement patterns in the Southeast, and there are some issues, because some of that is tied directly to say the trawl surveys, and so not as many of the council-managed species. However, that stated, our collaboration on fishery-independent surveys, through SEAMAP and MARMAP, we are advancing some of the more recent analysis, looking at the environmental information.

I think the last review of those fishery-independent -- The reef survey showed some, over time, distribution movements or shifts that were being identified, and the intent is to advance that even further, so we begin to use the most recent information and the most significant in our independent surveys to really acknowledge what we know and where we can advance that into the future and also support specifically the science that we're talking about, and that's why it's going to be very critical that, if there is the collaboration on science that we talked about before, it's really important, in the Southeast, to have SEAMAP and MARMAP very significantly represented for the reef fish, and that's probably 60 or 70 percent of the survey activities that are being done through the state and the state-federal partnership work.

Some of the other aspects that are really important that are advancing is what I had indicated earlier on, is that we are coming to another stage in the ecosystem modeling efforts. That is going to be presented -- A South Atlantic ecosystem model will be presented at the upcoming April SSC meeting, and we are actually following that up with discussions on how that translates into scenarios and activities, and so I think how that provides the foundation for discussions on prey interactions and on predator interactions are going to be pretty significant, to at least set the stage, and then we are also looking at scenarios into the long term.

As I have mentioned, in the past, that was funded fully by the Landscape Conservation Cooperative, and so we're looking to build on the existing partnerships say with our partners at FWRI on Ecospecies, as a long-term repository for the ecosystem modeling information, and then even beyond, as potentially building on other efforts that they've been involved on Ecopath modeling into the future. Those are some significant collaborations that are supporting our ecosystem activities.

On the CCC side, we are advancing -- I moved into as the chair of the workgroup for the CCC for habitat this year, and we are advancing the potential for an EFH workshop to advance into the future, and that's something that is working through and will be discussed at the upcoming webinar and then more complete at the May CCC meeting in Charleston.

What I was hoping to do is transition -- We may still have a couple of minutes, but transition to one of the other collaborations with a regional partner that I had mentioned earlier, is, in the Southeast, the Southeast Coastal Ocean Observing Regional Association, SECOORA, is our long-term partner that we have been working with to try to look at how the oceanographic information really can support and provide input into what is going on in the Southeast Region.

We're at a critical stage with that organization on looking at advancing the efforts to look at some of the bigger-ticket items that they are involved in, such as the use of HF radar in the region and the use of autonomous vehicles, gliders, and fixed buoy systems, and the intent is to, as those different sub-components of that organization advance, for long-term planning, that the fisheries needs on characterization and collection of information on technologies be advanced.

One other significant aspect is the opportunity to cross-walk between say our fishery-independent surveys, and we need to get to a point where we are utilizing some of the newest technologies, and we have the capability, with the investments that the State of South Carolina has made, with the Palmetto, to be able to carry an AUV on virtually every one of the cruises and to do mapping and to do characterization and to do sound characterization on a number of different things that could be advanced in our region, and so the opportunity to collaborate with our partner to do that is hopefully going to happen sooner than later, opportunities to even included fixed systems, such as Teledyne BATS systems, to be able to map virtually on every cruise, and that would be a highlight.

I have mentioned these in the past, but I think we're getting to a point where, in the planning, it's going to be critical, and the second tier of that is that we're going to be in a five-year planning cycle for that association, and so then, hopefully, that can be even done in a longer-term commitment to how they address ecosystem and fisheries. Mr. Chair, I don't know if you would like to take a couple-minute break, because I had given her a heads-up to join at about 10:30, and so it may be a couple more minutes. I was trying to anticipate how long we would be discussing the bigger moving north.

DR. LANEY: Okay. Why don't take at least a five-minute break, and sort of stay tuned and don't wander.

(Whereupon, a recess was taken.)

DR. LANEY: We are ready to reconvene here. We have lost some folks that had to go catch flights, but we really appreciate them being here for the earlier discussion, and so I'm going to turn it over to Roger to introduce our speaker, and hopefully we will get the presentation up there pretty soon here.

MR. PUGLIESE: We're getting ready to go online. Debra Hernandez has joined us. Just a quick bio on Debra is she's the Executive Director of the Southeast Coastal Ocean Observing Regional Association, and that's one of the eleven partnerships throughout the U.S. for the Integrated Ocean Observing System. It's a non-profit, and it works and operates in the states of North Carolina, South Carolina, Georgia, and Florida. The mission of SECOORA is to catalyze and integrate the efforts of multiple observing interests to deliver user-defined products, save lives, conserve the marine environment, and support the economy of coastal regions.

Debra is a civil engineer with thirty years of experience in both coastal and ocean engineering and management and policy. She served on the National Academy's Ocean Science Board and the Ocean Research and Resources Advisory Panel, and she currently serves on the South Carolina Sea Grant Consortium Program Advisory Panel and chairs the overall IOOS Association. She graduated from Clemson and is a native of Charleston, living in Mount Pleasant at this time, and I would like to introduce Debra Hernandez.

MS. HERNANDEZ: Thanks so much for inviting me to speak, and I'm sorry that I couldn't be there in Jekyll Island. I'm guessing it's a little warmer than where I am at the moment, but what I have teed-up is a brief sort of background on SECOORA. I know that some of you all are pretty familiar with our work, and then I will focus in on some of the newer things that we're doing, and hopefully some opportunities to collaborate with all of you.

As Roger said, we are one of the eleven regional associations in the IOOS Program. We are primarily an affiliation of ocean sciences and stakeholders, folks who live and work on the coast. Our primary mission is to collect ocean and coastal data, so that we can understand the changes that are happening, and we don't collect data just to have data. We do it to help improve decision-making, whether it's about current conditions, changes in sea level, or long-term trends in temperature and climate.

This is just a map sort of depicting where all of the eleven regional associations operate. SECOORA does cover the West Florida Shelf and then all the way up through the Carolinas. There are four full-time and a part-time staff, and we have folks in St. Petersburg, Wilmington, North Carolina, and then I'm in Charleston, South Carolina. This is just a quick screenshot of our strategic plan, and what I was trying to sort of highlight here are that we accomplish everything we do through partnerships, and so you will find the word "partnership" in our mission, in our core values, and also in our strategic goals, and that picture in the bottom right is of our current board. Our chair is Michael Crosby with Mote Marine Lab, and you will see that Roger is on the board, as well as Marcel Reichert, which I know all of you folks know well.

We are a membership organization, and these are the logos of all of our members right now, and we have a number of academic institutions, but also private-sector folks, like Surflife, an ocean fishing forecast service, and then the public sector is represented as well, like Miami-Dade County, South Carolina Sea Grant, and South Carolina DNR.

Our primary job is to sustain long-term observations, and the things that have been around for a long time now are moorings and coastal stations, which I know you all are familiar with, and they collect primarily physical oceanographic data, and then high-frequency data, which are used to map surface currents. We have also been able, in the last three years now, to incorporate some newer technologies, with gliders, and then we have also been able to add acoustic receivers to listen for tagged fish, both at some of our mooring locations and on our gliders.

With the gliders, one of the more interesting things we were able to do last year is collaborate with some folks who are running glider lines all during hurricane season, and these have enabled us to make some improvements in our understanding of the temperature of the ocean below the surface, which we hope will improve intensity forecasting. The graphic on the left, these sort of sawtooth lines are the standard path that we are flying gliders, and so we're doing about six missions a year. The gliders are put in around Canaveral, or off of Savannah, and they fly the shelf back and forth until they are taken out of the water up in the Outer Banks.

I mentioned the acoustic receivers, and we're also serving to provide some data management services to the Florida Atlantic Telemetry Network. They operate, as you will see by the red dots, throughout the Caribbean and on up into the Mid-Atlantic even, and we host their website, and we host the data, and it feeds up into the Ocean Tracking Network.

We are also always trying to find better ways and cheaper ways to do our work. This past year, we had a project investigating using web cameras to monitor the coast, and we'll also have a drone workshop sometime in the next year to assess ways to incorporate that technology, and wave gliders are a little bit newer than the underwater gliders, and they have the potential to be out for months-long missions, and then low-cost sensors are also something we're exploring. Right now,

we're focused primarily on some new sea level sensors that can help get at some of the resiliency questions that a lot of coastal communities are working on.

This is just sort of a summary graphic. Those pie-shaped shaded yellow areas are the areas where we're measuring surface currents with the radar, and then the buoys and coastal stations are in purple, and then the glider lines, again, are with the sawtooth lines, and these are some summary numbers. I will draw your attention to the 12.4 million number, and we are collecting all this data, but for lots of different uses, which is how we bring a lot of value and leverage what we do to have greater impact.

Over this past year, we were able to successfully get some increased funding. The graphic on the right, on the radar, you will see that the green pies are where we've had radar for fifteen years that we've been supporting, and the red ones are the ones that were destroyed by Hurricane Irma, and we expect the funds to replace those to arrive on April 1. These purple pies are new radar that are going to go in off of Cape Canaveral within the next year, and then the orange pies are potential sites, and we actually have the funding to add four sites. Most likely, one is going to go in North Carolina, one in South Carolina, and then two more either right south of Savannah or right north of the Canaveral area, and so they are potential sites, and we're trying to figure out siting decisions right now.

We were also able to purchase our own glider, and so SECOORA will own this asset, and we're going to sort of, through a memorandum of agreement, loan it out to operators to fly missions in the South Atlantic.

As part of a national network that we belong to, there are federal regulations that sort of govern how we operate. SECOORA was certified last year, which means the data that we collect does meet federal standards, and it's protected by federal liability assurances, and it's a service with a lot of rigor that we can provide to our members and other partners to meet various requirements for making data broadly available.

As I mentioned, we have pretty robust data management capabilities. Axiom Data Science is the private-sector company that operates our data management system, and they can provide both technical assistance and they have metadata development tools to assist in transforming data into Darwin Core, for example, for biological data, and we also have a research workspace that enables folks to manipulate and do QA/QC on their data before being published in some sort of public portal, and then we also provide the service of pushing data to national archives as well as into the data banks that NOAA modelers use for various weather predictions.

We also have a couple of opportunities to work with students, and so, if you engage in that, I'm happy to make sure that you're aware of these opportunities, because we are actively looking for ways to support the next generation of ocean scientists.

I am going to take just a couple of minutes to talk about a few of our products. It's one thing to collect data, and it's another thing to turn it into information that people can use to make decisions, and these are just a few that we have. We have a new hurricane data discovery tool and a marine weather portal that sort of aggregates real-time data, including all the National Weather Service marine forecasts, for folks that are out on the water regularly. We have a How's the Beach Tool

that provides forecasts of water quality, and then we work with Dr. Ruoying He at North Carolina State University to support a model that covers our entire region.

If you haven't already, please visit our data portal, and it is an amazing resource. There is some very robust ways to analyze and overlay different types of data and do quick assessments of trends. We have some new tutorials on the portal that hopefully are improving people's capability to utilize all these analysis tools that are available.

The graphic on the right is sort of a detailed view of the data you get from high-frequency radar. They provide a real-time map of surface currents, and you will see that the arrows get a lot longer and darker where the currents are the highest, and, for our region, that is where you run into the Gulf Stream, and the U.S. Coast Guard uses the data, and they are also pretty critical in oil spill response. We were deployed, for example, during Deepwater Horizon, and it can also do things like improve our understanding of harmful algal bloom transport and larval transport.

One of the things we did this year, and I will try to make this video work, is work with Greg Dusek at NOAA, with Surfline and others, to investigate using coastal webcams to improve modeling, and it's a little hard to see, but, where there are darker water in this video, that is where the rip current channels are developing, and so the idea is that these could turn into some sort of operational forecast, where you would have the green dots when there was not -- When there was a low probability of rip currents, and then it would be red when there was a higher probability.

This has got a lot of information on it, but the take-home message is the hurricane center, National Hurricane Center, if you look at the graphic in the upper-right-hand side of the screen, has done a pretty good job of improving track error, or decreasing track error, over the last twenty years or thirty years or so. However, if you look at intensity, the lines are a lot flatter over the same time period, and we have not been able to make as much progress in improving our forecast of how intense the hurricane is going to be, and these different colored lines -- Red is the twenty-four-hour forecast, all the way out to the five-day forecast, and so, for each of these time periods, you will see that there is improvement in our prediction of where the hurricane is going to go and less improvement in intensity.

As I know many of you are aware, with Hurricane Florence, and some other hurricanes, it seems like they are slowing down a bit, and there is some discussion that this may be a trend associated with climate change, and so having data on the temperature of the ocean below the surface may be a key to improving those intensity forecasts. This graphic below the track intensity graphic depicts the temperature of the ocean along the track of the glider, and so there is one that was flown up here off of North Carolina, and then there was one that was off of South Carolina.

This lower graphic is the Global Ocean Forecasting System model output when they did not include any glider data, and this is when the model was able to assimilate glider data, and you will see it does a much better job of seeing where the cold water is, which are the blue, and, therefore, improving our understanding of intensity and how temperature influences where the hurricane is going and how strong it will be.

We also try to aggregate resources and push them out to make folks more aware. Annually, we do a hurricane resources webpage, and we have just recently added a Florida red tide resources page as well, and now to some sort of next steps for SECOORA.

We are working on our Regional Coastal Ocean Observing Plan. This plan will cover -- It will be a five-year plan covering 2020 to 2024, and we are updating this plan in anticipation of writing our next cooperative agreement, and SECOORA is funded via a cooperative agreement, and we annually work with Congress and NOAA to try to maintain and improve our funding level, but we are sort of governed by these five-year plans and cooperative agreements.

You will see, on the right, a very preliminary draft of our observing plan, and we have four sort of high-level focus areas, and the one you all would be most interested in is related to ecosystems and making sure we understand what data and information is needed to support the decision-making that all of you do.

As part of this planning work, we will be engaging with key stakeholders, particularly folks like Roger and Marcel, and hopefully some of you, to document both what you're already doing, so that SECOORA focuses its efforts and resources on augmenting or complementing that work, and so we'll be reaching out, over the next month, to get input on our ecosystem part of our plan to sort of key stakeholders, and then, in June, we're going to present a draft of the plan to our board and membership and seek much broader input from the stakeholder community.

What we want this plan to capture are the highest priorities for observing and modeling work in our region to address priority questions and needs, and so do we need gliders available to go out and fly missions that are more event driven, i.e., we're aware of a cold pool, or there's an event, and do we need our glider missions to fly in different parts of the ocean or in conjunction with other biological sampling, so that modeling and understanding of ecosystems and habitats have more data, the models are more robust, so that your work on determining allocation and fisheries stock health is better informed by these observations.

Those are the sort of things that we are hoping to capture as part of our planning effort. We want to finalize it by September of this year, and then, at that point, we will be soliciting proposals from the broad user community for work to be included in our next cooperative agreement to be funded by NOAA, and that next period would start on June 1 of 2021, and so, Roger, I think that's my last slide.

As a reminder, we partner, and we want to partner and continue to partner with all of you, and our primary mission is around monitoring and observing, and we want to make sure that we complement the work that you all do, and the reason that we're doing it, again, is to support decision-making.

DR. LANEY: Thank you, Debra, for the presentation. Do we have questions or comments for Debra from the committee and/or the council?

MS. MCCAWLEY: I don't really have a question, but I just wanted to say thank you to Debra. I think that was a great presentation, and I didn't know much about that program, and I appreciate her taking the time to educate us about it.

DR. LANEY: Thank you, Jessica. Debra, I have a question. How far back in time do your databases go? Are there a lot of historical data archived there, in addition to what you all are currently continuing to collect?

MS. HERNANDEZ: Yes, we have both a real-time data portal and a historic data portal. The things we fund, we are working to make sure that we have the entire record. For some of our buoys, that is twenty years. For other things, like our glider missions, we only have -- We have only been doing those for about three years, and so it really depends, but, yes, we have both real-time and historic data.

If there is something in particular that you're looking for, we would appreciate that feedback, and we will do what we can to help make that available. I know a lot of the National Archives are fairly difficult to access the historical data, and so, if we are aware that people need particular datasets, we can work to make those available via our portal. We are also regularly looking, primarily to the scientific and research community, to rescue data. There are a lot of folks have really interesting stuff on their computers in their office, and so we add new datasets pretty regularly, and so we're happy to work with folks on that as well.

DR. LANEY: Thank you, Debra. My interest is specifically relative to off of North Carolina and Virginia during the wintertime. Some of our early cruises are missing some sea surface temperature data, and so that's something that I can talk to you about offline, as to whether or not there might be a dataset somewhere that would enable us to fill in some of the holes in our dataset, particularly with respect to temperature and also salinity.

Then the other comment I will make is your comment about trying to save datasets, and, wow, that is something that is hugely important. We have been working on that, and North Carolina, actually, through what I would consider to be a non-traditional source of data warehousing or archiving, and that's through the North Carolina State Museum of Natural Sciences, and their effort sort of arose out of the fact that they have fish specimens in their collections that were collected on NOAA research vessel cruises, and they didn't have the corresponding environmental data that matched up with the station numbers that were usually on the tag for those specimens, and so I have helped Gabriella Hogue, who is the curator there for the fish collection, to track down some of those NOAA reports that have all that information in it.

Another good example is some of you know, or many of you around the table know, Dr. Frank Schwartz, who not too long ago passed away, and we are working to get Frank's data, his raw data, which were all in a filing cabinet at the Institute of Marine Sciences, to make sure that those data don't disappear anywhere. I think Dr. Joel Fogarty at UNC has been involved in that discussion, and Gabriella is interested in securing some of those data, to make sure that they don't vanish, and yours truly has got jars of specimens sitting in his basement archives that also need to get into a curated collection somewhere as well, and so it's important that we don't lose a lot of those data like that.

MR. SAPP: Maybe this is a bit selfish here, but your high-frequency radar, how far offshore does that read, and how frequently does it update?

MS. HERNANDEZ: On the update question, it depends on the operator, but it updates between hourly -- It's either every hour, every three hours, or every six hours, and the operators sort of make that call. Again, how far it goes out in the ocean depends on the weather conditions during the day. It can go out, and the frequency of the radar, and so it's variable. I can send out some links, but it can go -- I mean, as you saw from that graphic, it can go out as far as 200 miles, but,

on the Gulf side, there are days when it doesn't work very well, because it's very calm, and, if the radar has got nothing to sort of bounce off of, you're not going to get good readings, but it's usually on the order of fifty miles-ish.

MR. SAPP: Wonderful. Thank you.

DR. LANEY: Okay. Are there other questions?

MS. HERNANDEZ: As I said, there are some new radars that are going to be going in in the Keys, if that's of interest to you all, and I think sometime during the next year, and those are actually being funded by the Gulf of Mexico National Academy -- It's one of those programs that was oil spill funded.

DR. LANEY: Thank you. Are there other questions or comments?

MR. BELL: Just something you said a while ago, and thanks for the presentation. That was great. You all have got a lot of really cool stuff going on. You mentioned some connectivity with the Coast Guard related to marine pollution and tracking oil spill kind of stuff, and are you also connected -- Related to they have search and rescue models and stuff they do for trying to figure out which way a drifting boat might be going, or a person or something, and are you all connected with them, related to providing data or kind of feeding into their models for that?

MS. HERNANDEZ: Yes, and, actually, that's one of the primary stakeholder uses of this data, and so there is collaboration at the national level to make sure this radar data goes into their national data management system, and then it's pushed back out to the Coast Guard district offices. In fact, where the radar is operating, over a seventy-two-hour period, the search area can be reduced as much as two-thirds, because you are getting real-time surface current data from the radar.

One of the issues we are having is, as you all know, there is a lot of turnover in the Coast Guard offices. They move around a lot, and so keeping training up-to-date, so that the operators in the districts know how to utilize the data is one issue we're having to work on. I will tell you that, for all the offices I have been in, they tell me that they are using the data, and they have it up daily, for situational awareness, but, yes, great question, and it's one of the things we're really proud of doing.

DR. LANEY: Debra, I have another question. You talked about membership, and so how does an organization become a member of SECOORA, and is there a membership fee or anything like that that goes along with that?

MS. HERNANDEZ: We do have dues, and I am happy to talk to you about it. We have individual members and institutional members, and it's \$1,000 annual dues for our institutional members. Federal agencies and federal programs are exempt from dues, and so just send me a quick email, and I will be happy to get you the information, and we would love to have lots of you be members.

DR. LANEY: Okay. Thank you. Are there other questions or comments for Debra?

MR. PUGLIESE: Thank you, Debra. I really appreciate the effort and a fairly short turnaround time to be able to get this much information together. I think, really, the idea was to show how far

the program has evolved under your guidance and development, and some of this discussion we're having here about how things, such as HF radar, have really matured, and they now are filling the gaps.

I mean, this is some really amazingly high-resolution that has things that we haven't even tapped into, and a vessel, not only search and rescue, but you can actually do work on vessel movement patterns, et cetera, with the use of HF radar, and so there is some real opportunity, as that entire area fills in. The long-term planning, if everybody looked at it, actually has specific areas that talk about how to better inform information on species shifting and patterns, exactly what we were talking about today. I mean, it's using a lot of the technology and the modeling and the efforts to inform fisheries.

I think this is a real prime opportunity to advance what we have been building in the background to even better layers, and I think the most important fact is that so many of these things are maturing to the point where they can really cross-walk from what they were originally used for and then into fisheries and even some of the things you highlighted, such as deployable assets. It goes right in line with some of the things we were talking about in connecting into fishery-independent surveys and really magnifying the values of some of these capabilities that SECOORA is supporting.

I think one of the more recent ones that already is occurring in the Mid-Atlantic is connections between the Ocean Observing System and the fishery-independent surveys and how the fishery-independent surveys can fine-tune it with information they have, but then also connecting and using that information between the fishery-independent information plus the oceanographic, to really define things that you were talking about, species distribution patterns and movement and characterization and what some of the implications are for the future. This is very timely, and, again, I do appreciate the real effort to get it together quickly, and thank you.

DR. LANEY: Okay. Debra, thank you so much, again, for that presentation.

MS. HERNANDEZ: I am going to sign-off, but I just wanted to say thank you, again, for inviting me to participate. I really appreciate it.

DR. LANEY: Thank you so much. I am yielding forty-four minutes back to the Chair, and so the Habitat Committee will stand adjourned.

(Whereupon, the meeting adjourned on March 5, 2019.)

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Certified By: _____ Date: _____

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SAFMC Council Meeting - Day 2

Attendee Report: of 5 (Tuesday)

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