

SOUTH ATLANTIC FISHERY MANAGEMENT COUNCIL

HABITAT PROTECTION AND ECOSYSTEM-BASED MANAGEMENT COMMITTEE

**DoubleTree by Hilton Atlantic Beach Oceanfront
Atlantic Beach, NC**

December 4, 2017

SUMMARY MINUTES

COMMITTEE MEMBERS

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Rick DeVictor
Tony DiLernia
Dr. Jack McGovern
Dr. Bonnie Ponwith
Malory Martin

Nik Mehta
Erika Burgess
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Dale Diaz
Kathy Knowlton

Other observers and participants attached.

The Habitat Protection and Ecosystem-Based Management Committee of the South Atlantic Fishery Management Council convened at the DoubleTree by Hilton Atlantic Beach Oceanfront, Atlantic Beach, North Carolina, Monday morning, December 4, 2017, and was called to order by Co-Chairman Wilson Laney.

DR. LANEY: Obviously, I am not Doug Haymans, but Doug was not able to join us the first part of the week, and so I will be moderating the meeting on his behalf. The first order of business is Approval of the Agenda. Does anyone have any changes to the agenda that they would like to see us implement? Seeing none, then I will presume the agenda is approved. The second item is the Approval of the June 2017 Committee Minutes. Are there any changes to the minutes? Hearing none, we will presume the minutes are approved as written.

That brings us to a Summary of the Habitat Protection and Ecosystem-Based Management Advisory Panel in November, and, unfortunately, neither Doug nor I were able to attend that meeting, but Roger is going to provide a summary of it for us, and I will turn it over to Roger to take it away.

MR. PUGLIESE: The Habitat Protection and Ecosystem-Based Management Advisory Panel met at Florida's FWRI in St. Petersburg on November 14 and 15. The panel had a full plate of items to address during that meeting, and they opened up with presentations by Brian Hooker from BOEM on the activities in the South Atlantic Region on both alternative energy as well as G&G.

Some of the highlights of the activities were some of the upcoming research that is going to be conducted as a coast-wide review, where they're going to be flying transects along the entire core of the Atlantic coast, collecting everything from vessel information, and I think they've identified like up to thirty-seven classes of vessels they will be able to identify as well as they're looking for marine mammal occurrence and other things, and they have offered to collect other information. One thing that was highlighted is it's one of the first opportunities to maybe get even some sargassum information, distribution, on one large swath as they're doing all this work along the coast, and so that's just one piece. The presentation and other details are provided in the report.

The other thing of interest to the council and the council's position is the G&G permit activities are still under review with the marine mammal authorization discussions still in process, and so that is still in the background. The council has provided their position, provided input, and we'll just keep -- Brian will keep us posted, as well as the rest of BOEM, on where things continue to move.

The second area was on the Landscape Conservation Cooperative, our coordination with Rua Mordecai, the Research Coordinator for the LCC, and he provided an overview of where the latest generation of Blueprint 2.2 is as well as a developing implementation strategy, where they have integrated things such as information from our Fishery Ecosystem Plan as well as the snapper grouper 2018 to 2022 blueprint for the fishery, and so they've been trying to integrate those as well as the entire suite of a lot of other activities in the region, as well as touching on the Southeast Conservation Adaptation Strategy and how that is actually picking up where all the Landscape Conservation Cooperatives -- We are directly connected with them. They are funding all of our activities on the ecosystem modeling efforts, and so we continue to have the coordination, and Malory Martin will be presenting a focused presentation on those items at the end of the committee meeting also.

We did have activity on the fishery-independent survey. Marcel Reichert provided us an overview of the research activities that have been conducted to date, and the one thing that was noted was that we've integrated the 2018 to 2022 research needs as well as the information from the South Atlantic SEAMAP five-year plan directly into the implementation plan, and so it was important to understand those different tiers of research that have been conducted.

One of the things, from an ecological standpoint, that was interesting in looking at the overall collected information were some of the trajectories of different species that we're in the middle of, with red snapper and black sea bass specifically, and they had divergent areas, and it will be interesting to see if some of the modeling information we have shows some of the potential prey-predator interactions, and so that had some direct relation with the activities.

One of the other thing that's connected directly to the fishery-independent surveys is our newest developing Atlas information on SA fisheries, and the next area, which we spent a significant portion of the time, was work on the FEP II implementation plan, and the advisory panel was given specific directions on refinement of the different components of the plan, consolidation of a couple of the key chapters to provide more direct council interaction versus prescriptive information that was included in the policy as well as identify priorities.

They were directed to look at areas for the next two years that would serve as the roadmap for the actual operations of the Fishery Ecosystem Plan, and so we had sessions, two different sessions, one accessing detailed information on the Atlas, Ecospecies and other things, in the lab and hands-on and the new generations of where we're going with technology and the Fishery Ecosystem Plan Dashboard. The second was to focus and have those discussions specifically on providing input on refinement of the implementation plan as well as on another aspect of it that is identifying threats and policies.

There was an expanded version of the discussion on threat matrices, actually, to try to connect some of that directly to some of the actions that are going to happen, and that's an ongoing component that will be added to the Dashboard as the advisory panel continues to work on that.

There was an overview of the FEP II Dashboard, and that's something that I am going to touch on today, on where we're going, and that has evolved very significantly, and it essentially is the Fishery Ecosystem Plan now. The evolution of that has resulted in, after people looking at that closer, providing even greater guidance, especially in the case of the AP, and there were discussions about integration of specific state-managed species detailed information and habitat information and continued refinement, so that, literally, you have a lot of these things at your fingertips for the Region, for the state, for everywhere, and I think that's a very positive aspect of the developing Dashboard. That was discussed and provided and immediately responded to, because that's the one thing, in working with Cameron, is we're able to literally refine that and update it and activate a lot of those types of connections.

The last couple of activities of the advisory panel had to do with an update on the ecosystem modeling, touching on the fact that Tom Okey has presented to the SSC in October, as well as Howard Townsend, on both the activities of the ongoing ecosystem model development for the South Atlantic Region as well as what the vision from the NOAA Fisheries side and how it has been implemented throughout the regions and how that can be applied to the South Atlantic

Region, and so providing at least a status report, and I will touch on that a little bit more later on. I did provide both of those presentations in the briefing materials.

The last was a presentation on some new information that was just provided from the Beaufort Lab and tied directly to our ecosystem activities, and some of these are very specifically identified already within the implementation plan. One development of an ecosystem status report that is going to provide everything from fishery statuses to habitat, ecosystem, and environmental components, and it's patterned somewhat after the Gulf of Mexico activities. The other one was work to try to combine all of the existing stock assessment information into a multispecies modeling effort and trying to aggregate those and look at what the implications are for management at MSY across all these different species and what some of the production implications are.

That has some significant opportunity to make sure that, if there is some input parameters there, that those are also being used in our South Atlantic regional ecosystem models, so that there can be some comparisons on how these generate, and so that's the -- Those are the activities of the advisory panel, if there are any questions about their deliberations, but it was a full meeting, and a lot of input.

DR. DUVAL: Thanks for that update, Roger, and I was looking, just briefly, at some of the AP's materials, and so I really like the idea of a threats matrix. I think that will be pretty useful, and I certainly encourage further development on that. Then, in terms of the ecosystem status report, that's -- It sounds like the Science Center is underway with that, the folks at the Beaufort Lab, and so when would that be anticipated to be, I guess, complete, or at least complete enough that the council could hear about it?

MR. PUGLIESE: Right, and that, I guess, is an ongoing discussion, because there is not a directive right now for them to do that. I think the fact that some of the additional discussions from both Jason Link and Cisco Werner and others who have been recently working directly with the Lab have kind of kicked off the opportunity to advance this, and so I think what they're doing, these are the first steps -- That's some of the first that I had heard of this, in the last month or so, and so I think, if they're given the directive, hopefully that's going to --

They have a template from which they were working from, and they can advance fairly rapidly, I think, to begin to get the iteration that can be used in the next year, and Bonnie may have a little bit more on that, because I know that's been a discussion, about, as soon as possible, they were going to initiate this activity, but you know about as much as I do in terms of timing right now, other than I'm going to be sitting down with Todd Kellison and Kevin Craig later on this week and discussing some of these things, in terms of what they're getting in terms of directives, but, right now, this was done as part of just an investigation, and I think they need a directive that that will connect in, and, as I indicated, it's one of the deliverables that we wanted both in the policy as well as in the implementation plan, and so I don't know if Bonnie wanted to at least touch on this.

DR. PONWITH: I can check in and see where they are in that process. We do have an ecosystem status report in the Gulf of Mexico. It's on its second version now, and the second version has actually really evolved to be quite a remarkable tool, with some good quantitative as well as qualitative indicators in there, and that creates an excellent launching point for the one in the South Atlantic, and so I will be talking with them again this week, but we'll find out, but that certainly

is a priority among all those other huge stack of priorities, but we can talk about that and see how we shuffle the deck, in terms of the ideal timing for that.

DR. LANEY: Bonnie, a follow-up question. You mentioned that one has a quantitative dimension to it. Is it getting to the point where results from it could actually be contributing to management advice?

DR. PONWITH: I would say emphatically yes. I think it's an excellent tool to be able to look beyond just a single-species stock assessment as a feel for the system, but actually look at some of those system effects, and so, yes.

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

MR. HARTIG: I was wondering -- I am not on the committee, but I was wondering if the committee would like to see Roger give a presentation, either in March or June, on what is similar to what you gave the AP for the tools and systems supporting FEP II.

MR. PUGLIESE: Actually, I was going to walk through the Dashboard today and just at least touch on the highlights of those.

MR. HARTIG: Okay.

DR. LANEY: Other questions or comments?

MR. PUGLIESE: One of the things that I think is encouraging for our region is that, as they look at the development of the ecosystem status report, while that's going to be a product coming out of the Center, I think the opportunity to work closely with our partners that we've been building the connection with the Ocean Observing Association, SECOORA, as well as the Landscape Conservation Cooperative, because there is some trajectories that are moving forward, in terms of building indicators and some of the tools and different capabilities, that they may be able to draw directly on and collaborate on and provide something in a fairly rapid manner, and so that's something that I want to make sure that, as this continues on, that there is opportunities to engage and potentially tap on some of those resources, where maybe some of the different tools have already been developed.

DR. LANEY: Thank you, Roger. Any other comments on this agenda item? I will just say thanks, Ben, for asking that question, and Roger will address that one. I think this council is way out in front of the other councils, in my humble opinion, and I will look to the Gulf and to the Mid-Atlantic, who may want to weigh-in on that, but I don't think -- At least my sense is that we have a tool accessible to us, in the form of the Dashboard, especially the interactive dimensions of it, that nobody else has, or at least yet, and so I'm really excited about that.

How many of you have had the opportunity to go on there and play with it yet? Has anybody actually done that? Dr. Duval. Thank you, ma'am. I would encourage everybody to go on there and use it and play with it and tinker with it, and I think Roger is going to give us some instruction about how to do that later on.

Okay. If no one else has any other questions on that agenda item, Agenda Item 2 is Roger again, who is going to talk to us about the FEP II Implementation Plan and Roadmap, which is Attachment 2 in your briefing book.

MR. PUGLIESE: What we have is two components of this discussion today, the implementation plan, just a quick note on its evolution, moving from the original one-page identification of a process in June to creation of a team and creation of an overall plan based on our policies approved and now the last policy was the artificial reef finalized, and so the entire plan was based on the components and the recommendations on those policies and trying to look at actions that can be accomplished over a long period of time.

The second part of it is to try to focus on what can be done within the next two years, and so essentially a roadmap on how this implementation plan can actually advance, and so where we are now is the generation that came out of the September council meeting was revised, and the initial draft was provided in the first briefing book, and that was the exact same draft that went to the Habitat Advisory Panel.

The Habitat and Ecosystem Advisory Panel was given direction on consolidation of policies and focal points on council and council partner actions for the actions that were presented in the policies and guidance on the short-term, two-year scope on given the idea of looking at three areas, three action areas, or more.

I mean, I think what you will see now is, as a follow-up to that, the revised implementation plan document was provided, and the initial one was provided without highlights of some of the prioritization, because, in some initial discussions that I had with Michelle, what we were doing was trying to separate kind of the big-picture implementation plan focus and then really get into the weeds later, so we could get from one stage to the next and look at kind of finalizing the implementation plan at this meeting and then advancing the roadmap, the two years, the summary and then how we're going to get to those different priorities that the advisory panel was recommending and the council kind of refining those specifically on what they felt were the ones that should be really advanced.

That was kind of the scope that we were originally going on. There was some concern of the possibility of getting additional refinement of making sure that the implementation plan was not prescriptive or did not mandate specific requirements at the state levels or other ones that really were not intended.

Most of that was addressed, I think, in here, but there still may be some areas that need to be refined and edited down on that, and so what you have is the last documents that were provided in the late folder was a revised implementation plan with the highlighted areas that the advisory panel had crafted, in terms of, again, consolidation and refinement and focused on a number of different actions under each of the policies identified, and so that's where we are with the document.

We're not under any congressional mandates with this, and so however you all would like to refine and revise, but the intent here is to make this as effective as we can, so that not only the council understands where this is going, but then, as we put this on the Dashboard itself, and I've talked a little bit with Erika and others about how we can make something that's actually almost more of an interactive component, so you could query out different actions that need to be done and you

could -- As people advance those, they could generate things, something that makes it more of a true living system, and so, given that, that's where we are, and I guess let me open it up with that before I get into much more detail.

DR. LANEY: Thank you, Roger.

DR. DUVAL: I want to give a shout-out to Roger for his efforts here. I think the introduction of the implementation plan is vastly improved, and I think we knew that this was going to be a little bit of a challenge, in terms of finalizing the implementation plan at this meeting, simply due to the timing of that Habitat AP meeting.

I know that, last time, I went through, and Jessica and Erika went through, the implementation plan, and we tried to provide suggestions in one document that could be passed on to the AP and to you, and I would like to have that opportunity to do that again here, and I don't think that I'm quite ready to approve the implementation plan here. I know, just going through the first few chapters, that there have been some significant changes, and so I'm still tracking sort of where things are going and what's been moved around and what has changed priority and how some of those recommendations have been addressed.

Clearly, some of them have, and I think I have probably some more edits that I would want to provide on that, and so I think -- I think I would be looking to see if we can work with you to get some of those edits addressed, and then I would be looking to approve the large final implementation plan, or comprehensive implementation plan, and then the shorter roadmap in March. I think that might be my preference, but I would look to others around the table who have also dug into this.

DR. LANEY: Thank you.

MR. ESTES: Thank you, Roger. From someone that -- I come from a freshwater environment, and, in the freshwater, habitat is extremely important, and so I've seen a bunch of these plans that have been put together in the freshwater environment, similar to this, but I have to thank everybody who worked on this for the thoughtfulness. There is lots of things in here, and this is really important, and I think, over the next twenty years, I think that we'll realize how important this is.

We don't just manage ACLs. We manage the environment, and I would like to echo what my fellow member from North Carolina said about we still have some edits, and we would like to make sure that this document -- I understand that it's going to be a living document and it will change, but we would like to make sure that this document has everything that we need and the public can read and understand before we fully approve it, and so I would agree that I would like to make sure to work with Roger and Michelle and get some more edits done and approve this in March, if we could. Thank you.

DR. LANEY: Thank you for that statement, Jim, about we just don't manage ACLs and we manage the environment. Yay. I appreciate that recognition. That may be the first time that has been uttered around the council table. Hopefully not, but, at least since I've been sitting at the table, I think that's the first time that's been uttered, and I greatly appreciate that.

The one thing I would ask is I know that you and the Florida staff, Jessica and Erika, have spent a great deal of time going over this, and so the sentiment that I am hearing, at least from Florida and North Carolina, is that you would like more time to work with staff, so that we could take up a final approval at the March meeting.

I would like to hear from -- Mel is on the webinar, and so, Mel, if you want to weigh-in as to whether you're okay with that approach or not, and Kathy or Zack, if either one of you guys want to weigh-in, but the one thing that I did want to do is ask Erika and Jim if you all wanted to maybe hit some highlights of some of the areas that you're concerned with, just so you could share those with the rest of the council and members could be thinking about them between now and March and also weigh-in with staff, if they want to do so, and so does that sound like a good approach, folks? I see some heads nodding.

MR. BELL: I will commend Roger. This is a lot of work, but I really am encouraged by this whole thing, and I think take a little bit of time, but, if we could move forward with this, and particularly by March, that would be great.

DR. LANEY: Thanks, Mel.

MS. KNOWLTON: Yes, we can confer. We've got somebody who works on this and chairs the committee, and so I feel it's been reviewed very well, but we're fine with waiting until March for final approval.

DR. LANEY: Okay, and so it sounds pretty unanimous that we want to take some more time, and I will go back to Jim and Erika again to maybe share some highlights of what some of their suggested changes are.

MR. ESTES: Thank you, Mr. Chairman. The one thing, and I think we mentioned it before, and Roger alluded to this, is there is several places in here where it looks like the states might be getting some directives, and I know that the language in some places was changed to be clear that that wasn't the intent, but there are certain other places that it's not quite so clear, and I think that's probably our biggest area of sensitivity.

DR. DUVAL: Just looking to that, I know that, in the introduction, it's been clarified that no action is suggested here as a directive for any other state or agency, and I'm thinking that another thing that might be able to help clear that up is just in the labeling of the different columns. We have the Policy, the Policy Component, the Action Items Supporting Policy, the Priority, and then Program/Organization/Agency, and I think one of the things that I made a note about that I think could be helpful is in in that column is we could say "Potential Partners", and then you could say, maybe in parentheses, Program/Organization/Agency, and so just the column heading as potential partners, because I think that will absolutely clarify, for anyone who is just looking at the chart itself and skips through any of the introductory material, that it's not a directive, and I think would probably go a long way towards alleviating some of the concerns in that regard.

DR. LANEY: Thank you, Michelle. I see Jim nodding that they think that would be a good editorial change as well, and so change that to "Potential Partners". Any other specific comments?

DR. DUVAL: I think I'm just going to give an example of something that I will be sending as like a potential modification, and so, just when I look at -- I'm on page 6, the very first component, Food Webs and Connectivity, and looking at the action items supporting the policy there that Roger has up on the screen, and this has changed definitely, a little bit. I think some of the policy components, it looks like, have moved more into action items supporting the policy, and so, when I read -- It looks like the fourth paragraph down, where it says: "Include forage fish information (species occurrence and distribution of biomass with variable environmental conditions) in other fishery management tools and processes in order to support the development of sustainable harvest strategies that incorporate ecosystem considerations and tradeoffs."

When I see something like incorporate this information in other fishery management tools, I am trying to think about how we operate here as a council, and so I would be tempted to modify that to say to include forage fish information, then the parentheses, like in the affected environment section of fishery management plan amendments, so we have the different chapters of the amendment.

I think, rather than the council undertaking an extremely large forage fish amendment, and we don't have the resources for that, but I think, in order to keep some of these concerns sort of on the table, what you could do is, in the affected environment section, which is Chapter 3 of all of our documents, you could include information about forage fish or food web dynamics in that piece, just like we have incorporated how snapper grouper amendments are meeting the vision blueprint, and so that could be in either Chapter 3, the affected environment, or Chapter 4, which is the environmental consequences chapter as well, and so I think that's a way -- Including information in either of those chapters is a way to keep these issues kind of front and center and gradually start addressing them within our plan amendments, and so I would be -- I will certainly offer up some suggested language in that regard, to include forage fish information in the affected environment section of amendments and other management actions to support the development of sustainable harvest tactics, et cetera, et cetera, and I will shut up.

DR. LANEY: Okay, and I think that some of the verbs that have been included in these earlier versions are put there because we had been -- The sentiment had been expressed to a number of us that, in contrast to documents in the past, which were largely a compendia of a great deal of information that, for an implementation plan, the sentiment was, hey, put something in there that the council can actually do that is an action item, so to speak, and so that's why some of those verbs are in there, but, if you all are viewing those -- If you think the perception is those are more directives to the states or other potential partners, then we can definitely modify that wording, but my concern is that the council still see the potential for taking an action, as opposed to us just including information. Information is great, but it serves as the basis for a decision, a lot of times, by the council, and I think that's kind of what we were thinking on those, but certainly good editorial suggestions there, Michelle.

DR. DUVAL: I think that's what I'm trying to get at, is that, if you are including that type of analysis in both the affected environment, what are the food web linkages for whatever species or set of species that we're considering action for, and then, in Chapter 4, the environmental consequences, what are the environmental consequences of this particular action with regard to how it impacts other components of the food web, and so I think that's a much -- It's an easier way and a less labor-intensive way of the council being able to do something, for the council being able to address considerations of food web dynamics and forage species. Everything is forage for

something else at some point, whether it's lionfish eating baby groupers or whatever, and so I think that would be one of my suggestions for how the council is actually taking action or addressing these things.

DR. LANEY: Thank you.

MR. PHILLIPS: I am not on the committee, but I was just kind of scrolling through and looking and, down under climate variability, and I think it was on page 16 that it talks about the council developing and engaging a memorandum of understanding with the other councils, and it says MOU under development, and Gregg and I were at the Northeast steering committee, and we were talking about, at CCC meetings, the Executive Directors, Chairs, and Vice Chairs talking about species moving north and how we were going to handle it, but I'm not quite sure what kind of MOU you would write up, and maybe Roger can explain that, because we're going to have this interaction between councils and working partners, but I'm not sure what the MOU would look like.

MR. PUGLIESE: I think that was tied to at least some of the discussions that were held before, and we have done -- The only other really cross-MOU that I remember was when we did some on the deepwater coral conservation or habitat, and everybody actually tailored it to their region, the way it was laid out, and so there was a way to at least talk about that collaboration across the different regions to address the issue, and I think it was put in here because of the discussions that were ongoing, however that evolves, whether it be an MOU or not, and I think the idea was the conceptual nature of that collaboration.

MR. DILERNIA: Let me share with you what we've experienced in the Mid recently. A couple of years ago -- Well, it's common knowledge that some of our benthic species, notably black sea bass, summer flounder, and scup, are moving northeast pretty rapidly, and so fisheries that were only marginal in the southern New England area, say the states of Rhode Island and Massachusetts, are becoming -- The population is becoming much stronger, and the fisheries are expanding.

As a result, the New England Council asked for joint management on those species, and we currently have joint management on monkfish and on spiny dogfish, and joint management can prove to be a difficult process at times, but, nonetheless, the New England Council was asking for joint management over those species.

What we in the Mid-Atlantic proposed, and what has ultimately been accepted, is that what we've done is we've expanded the number of positions on our species committees to include additional members of representatives from the southern New England states of Rhode Island and Massachusetts, and so, as we jointly manage those species -- Also, let me remind everyone that we jointly manage these species, the Mid-Atlantic, with the Atlantic States Marine Fisheries Commission, and so, between the southern New England states having representatives on the Atlantic States Marine Fisheries Commission and our expanded committee process of including additional seats from Rhode Island and Massachusetts on our species committees, we have been able to address this movement of species to the north.

Perhaps that might be something this -- Well, this council has already done that, I believe, under Michelle's leadership. You have done that, and that seems to be working quite well. I haven't heard anything from the Mid-Atlantic Council that would indicate a desire of expanding that

beyond what we currently have, the agreement we currently have, but that seems to be working. It's good though that we all recognize that species are moving from one council's zone of influence into another, and the fact that we're working cooperatively together towards managing that is very encouraging, and so it's working, and I don't know if you want to expand it. If you did, I wouldn't have a recommendation at this point, but it seems to be working quite well. Thank you.

DR. LANEY: Thank you, Tony.

DR. DUVAL: Just following up on what Tony said, I think this particular action that Charlie was highlighting about an MOU -- I agree with Roger that whether MOU is the appropriate vehicle or name, but it's really more the conceptual thing, but I think what we were talking about, Tony, and this was based on CCC conversations, as Charlie indicated, from earlier this year, but it was really more about the science underpinning the management, and so getting together scientists from the Northeast Region and the Southeast Region when we're looking at stock assessments, blueline tilefish being the example of where we've tried to pull everybody together in one room for that.

Looking at that and then trying to think ahead for how best to make sure that we're getting all of the science together in one room that might exist for management of these species as they start expanding, and so that was really not as much about the folks sitting around the table here, because, as you indicated, we have voting members from the Mid-Atlantic Council on our Mackerel Cobia and Snapper Grouper Committees, but making sure that we're doing our due diligence in expanding the consideration of the science across the regions.

DR. LANEY: Thank you, Dr. Duval.

MR. PUGLIESE: I think a couple of things. Let me touch on one of the points you had made before, and then I will come back to this one, about the integration into Chapter 3. It's really appropriate, because one of the things we're trying to do with the Dashboard is provide those sub-sections, and, ultimately, those are going to be for the environment for habitat, and so it will actually have a living component, and so that really makes a lot of sense.

Getting back to specifically this point, I am hoping, in the final regional action plan for climate, that some of these directives to the Southeast Center to collaborate on shifts and everything, I think they're in the draft that we have presented, and so I'm hoping that some of those will actually provide the foundation for that science collaboration to continue on, because I think the final is still -- It's almost there, but not quite. We have it in our Dashboard already, but hopefully that will provide some of the impetus to actually do some of what we're talking about right now to get the scientists talking between the regions to ensure that -- Plus also talking with the associations and different ones that have the tools that can provide the things or some of the tools that have been developed in collaboration with NOAA, like Ocean Adapt, et cetera.

MR. ESTES: Mr. Chairman, if you don't mind skipping around a little bit, there's another issue that I thought was kind of important in here, but it's really a question. In the aquaculture chapter, first of all, I don't think we have a lot of offshore aquaculture that is occurring or that is going to occur in the near future. However, that doesn't mean that we shouldn't be thinking about it, but I think we're having some issues in the Gulf, I think. If I understand right, Dale, I think that you all have developed an aquaculture plan, and I don't know if it was an FMP or what, and now there

are some legal issues, and so I question whether we really need to embark on developing an FMP for aquaculture, and that's really a question.

DR. LANEY: Dale, would you like to comment on that and just let us know what's going on in the Gulf? Thank you.

MR. DIAZ: I might need some help from National Marine Fisheries, but the Gulf has developed an aquaculture plan, and I believe everything is up and running and it's a viable aquaculture plan at this point, although I'm not positive if there are still some legal challenges going on. Do you have any insight into that?

MS. SMIT-BRUNELLO: Sure. The Gulf Council developed an aquaculture FMP, and it was approved, or it went into legal effect anyway, and then there was a gap between that and the rulemaking, and so the rulemaking finally went out. There was a proposed rule and a final rule, and the final rule is out, and then there is a lawsuit from a number of groups on that final rule, and, right now, that is going through the court process, the legal process, and they are filing briefs and all that sort of stuff. I think the final brief might be filed, I think, in January or so, from this next year, and so the FMP exists, and there is a final rule.

As to whether anyone is seeking an aquaculture permit or anything like that right now, I don't know that they are. They may be waiting to see how the litigation ends up and all that, but Dale is right that it's in the court system, but there is an existing FMP with a final implementing rule.

DR. LANEY: Monica, the litigation is over the final rule itself or the FMP or both, or are they one and the same?

MS. SMIT-BRUNELLO: There was litigation initially filed on the amendment, but, for a variety of reasons, that litigation didn't go forward, and so the Magnuson Act really requires you to file - - One of the things you can do is file a lawsuit on the final rule, but the final rule implements the FMP, and so it's all being challenged, in practical terms.

DR. LANEY: Thank you.

MR. ESTES: Hearing that, I might just suggest, instead of maybe -- Right now, we have it as a high priority, and I might just suggest maybe down-grading that until we kind of see what happens. I do think it's important to get in front of this, because I think we know, sooner or later, this is going to happen in some places, and so my only suggestion would be to consider down-grading the priority.

DR. LANEY: Okay. Thank you, Jim.

MR. BREWER: I just wanted to point out that, given who the plaintiffs are in the Gulf litigation, I think there's a lot lower chance, or lower possibility, that litigation would be filed in the South Atlantic if we did want to go forward with an FMP or some sort of a plan with regard to aquaculture. Eventually, we are going to get to having to deal with aquaculture. Eventually, it's going to happen. We can't continue on with the trends that we've seen and what's been going on and not have some sort of aquaculture component to it. I don't know that we need to do it right now, and I don't know that it needs to be a really, really high priority, but it's coming.

DR. DUVAL: I concur with the comments of Jim and Chester. I think, for the council, I don't think this is a high priority right now. I think we're sort of resource limited, in terms of our priorities, and I'm sure we'll talk about that more in Executive Finance, but it is something that we are going to need to get out in front of, and I think we can probably learn some lessons from our neighbors in the Gulf and any other regions that have dealt with this.

I will say, and I think I mentioned this at the last meeting, that the conclusion of our legislative session here in North Carolina included a number of directives with regard to aquaculture, and a couple of those pertain specifically to our agency, and so we have some directives to request this council and the Mid-Atlantic Council to develop aquaculture FMPs, and I expect that there will be some letter forthcoming to this council making that request. Where the council chooses to place that in its list of priorities is up to the council, and so thank you.

MR. GRINER: I just kind of wanted to echo what Michelle said. It may not be a super-high priority right now, but I think it's moving -- It's not a low priority, and it's going to become more and more of a higher priority, because I think it's probably coming quicker than we really realize, and so I do want to keep out in front of this, for sure.

DR. LANEY: Thank you, Tim.

MR. HARTIG: I was at the Pacific expo a couple of weeks ago out in Seattle, and Chris Oliver gave the keynote address, and one of the things that he did note was that aquaculture is a focus of the new administration, as well as recreational fisheries, and so I am sure, at the CCC, you will probably be discussing this sooner than later for everybody.

DR. DUVAL: Just one quick thing. I will just note that ASMFC just released an RFP for aquaculture activities. That came out on Friday, and I know that Executive Director Bob Beal is going to be here on Wednesday, and so you might want to chat with him about the components of that, or check it out yourself on ASMFC's website, but I think those proposals are due like February 1. Thanks.

MR. BELL: I was just going to agree with what I was hearing, which is it's definitely an area of interest. Given the National Marine Fisheries Service's progress in this area, it's definitely coming, but, in terms of a priority for us right now, I would agree with perhaps down-grading the priority, given everything else we've got going on, and, when I sort of think about aquaculture in the federal realm, if you will, I am trying to imagine how that would play out and what it would look like.

I know, from a state perspective, we've got things going on related primarily to oyster aquaculture, mariculture in state waters, but I am still trying to envision what that federal fishery is or what it might look like out there, but I would agree with perhaps down-grading the priority for us right now, but it is something that is indeed on a burner somewhere.

DR. LANEY: Thank you, Mel. Others? I will just note that the ASMFC Habitat Committee has on its agenda for finalizing an aquaculture document relative to the potential impacts of aquaculture on habitats, fish habitats, and including fisheries as well, I think, and I'm not sure. We did try and focus the scope of that document really in on the potential habitat impacts, and so that

is something that may help both the South Atlantic and the Mid-Atlantic if at some point in the future we start developing an FMP for aquaculture, and I agree with what everybody else has said. It's definitely something that is going to come down the road that we're going to have to address.

MR. PUGLIESE: It's not as if we're starting from zero here. We have a Habitat and Ecosystem Advisory Panel that has been developing -- They developed the aquaculture policy, and we had interaction directly with the National Aquaculture Program when we were doing that, and so I think what we can do -- While the operation of a plan doesn't necessarily have to be operating, the Habitat and Ecosystem Advisory Panel can be looking at the state plans and can be looking at what's done in the Gulf of Mexico and can be looking at the habitat implications and can take it a step further, in terms of having that information available for the council as it continues to look at this issue, and that's the vehicle, and we've already been building this in the background, and that's a vehicle that you can get more information to be able to be poised to understand a lot of the questions we're having right now about what the implications are going to mean and how the council can advance beyond the point where we are now.

DR. LANEY: Thank you for that reminder that we do already have that policy. Are there other comments on the FEP II implementation plan and roadmap? Let me just ask for my own edification, Jim and Erika, did you guys have the version edited by the AP when you put your comments together? Okay. Good. Any other comments on this particular agenda item?

MR. PUGLIESE: I envision working closely with the individuals to be able to do like we did last time, essentially get the Word documents out and refine those back and forth and get that hammered out, and then any other council members -- If you're going to provide comments, please provide specific edits directly to me, instead of just the general comment, because those are going to be hard to address.

We're getting into the weeds now of pinning this down, and so, as those come forward, please provide those, and that's how we can proceed from here and make sure that this is the most effective and useful tool, and, in this last version, we do have the prioritization, and so look at that also while we're doing it. The further we can advance all of these different pieces, then, when we get to that next iteration, both of those, both the broader implementation plan and the roadmap, we can be ready to kind of really get in and do the fine touch in March.

With that, that's, I think, pretty clear on how we advance and make sure that this is going to be the most useful tool, and, also, I will say to think about some of the interactive capabilities that we might be able to use online with this, and that's something we might have to get some other technical people, in terms of understanding how this can be something queryable or accessible, to make it even more useful, instead of just a static document.

DR. LANEY: Thank you. Anything else on FEP II implementation? Seeing no hands, or hearing nothing from the telephone, we will move on to Agenda Item 3 then, which is Draft FEP II Dashboard and Tools. Roger, let me ask you a question here. Relative to time, we are now fifty-three minutes into our time, and so we have an hour-and-seven-minutes left. Are you going to be able to do this in a timely manner so that Malory has enough time to do is presentations?

MR. PUGLIESE: Yes, and I'm going to kind of focus on some highlights within here, and I think it's going to be up to members to go and access the living system and see how it's evolving beyond

here, but I think some highlights of this, and then, the balance of the time, I think Malory will be able to both do the presentation and discuss implications of that, too.

DR. LANEY: All right. Sounds good. Jump on in there, and, again, I am very excited about this tool, and I hope that you all will be equally excited about it and jump in there and use it and play with it and tinker with it and crank maps out and do all kind of things.

MR. PUGLIESE: First of all, Attachment 8 was an overview of the entire Dashboard at that point when we were putting the briefing materials together, and it has evolved even further than that, and so what I was going to go to was directly to the online. While we are going through, what I will indicate is that I've been working with Cameron, and we've done the major transition to our website.

We have revamped the way we enter. Through Habitat Conservation and Fishery Ecosystem Plan is the entryway into here, and so, instead of having some of that open area, it goes directly into the Fishery Ecosystem Plan, and we may put some frontend quick guidance areas within here, but that brings us directly into essentially what is the Fishery Ecosystem Plan, and it is sub-divided into an introduction, ecosystem, habitat, South Atlantic habitats, species, socioeconomic information, the human environment, the essential fish habitat managed areas, research and monitoring, and tools.

What you have is the introduction that kind of lays the foundation for both the long-term habitat conservation as well as the move toward ecosystem-based management and the development of FEP II. That brings us to the second component here, and there's been a significant update of this area, Ecosystems, South Atlantic Ecosystems. We have what was provided in the material, or the sub-sections, that are still waiting to be activated, the food web and connectivity, the climate variability and fisheries, and well as the policy statements. The specific policy statements are immediately accessible within the system, and so you can go directly from the section of the plan to the policies.

We have a placeholder for the implementation plan immediately following those main areas, and we have a couple of places where the plan will be available, and we have added in an ecosystem modeling component that presents both things such as the status -- The presentations that are specifically identifying where we are with the development of the South Atlantic Ecopath, Ecosim, Ecospace model components, as well as some of the historic documents that show some of the previous model development areas, where we have collaborated all the way back in the original operations under the Sea Around Us Project and the South Atlantic component developed all the way back in 2001 with the University of British Columbia.

In addition, we have integrated connections back to our original ecosystem health components, and so that's going to be some additional refinement there, as well as the management background from National Marine Fisheries Service, both the roadmap -- You will immediately be able to go through and see the roadmap as well as what the ecosystem-based fisheries management policies are from National Marine Fisheries Service.

One of the other newest components is adding in a climate link, and some of the collaboration between NOAA and Rutgers was development of an Ocean Adapt component, and this provides a view of taking species information and seeing where some of these different changes have

occurred, so you will immediately be able to access some of the outputs from these for species managed by the council or are prey or components of the ecosystem in our region.

It does it seasonally, and it does it different ways, and there is opportunities to be able to do that. Also, some of the broader climate information, such as the National Climate Indicator System and assessment links are provided too, and so this is continually evolving. As it comes together, we look at even more advancement.

Now, one of the significant changes within here is this is the South Atlantic habitats, and it provides, again, some of the different things that have been provided, like artificial reef habitat, shallow-water coral, live bottom, links to the coral plan, links to the sargassum plan, links to some of the original estuarine habitat information, and one of the most significant changes here was understanding that some of those estuarine habitat reviews that we were undertaking were already somewhat behind the curve and going directly to a couple of different things.

Where states had coastal habitat protection plans, like North Carolina, having that direct information, down to the species or habitat, available, so you can go all the way into the source documents and be able to pull that information from here and see it, to the State Wildlife Action Plans, which each of the states has, and it has all of the habitats.

It has all of the environment, and one of the key connections here is that it's also what's being drawn on by our partners with the LCC and the Southeast Conservation Adaptation Strategy, and so there's a nice crosswalk between the marine and land and the entire region system, and so this gives you the most updated information, because many of these SWAPs are being updated literally right now, and they will provide detailed information even down to things such as, in Florida, going down into the live bottom and not only showing information on the area, but also threats, et cetera, for those systems.

Coming from the last AP meeting, there were very additional very detailed projects that were identified, such as going in and having access directly to Florida's seagrass information system, and so this literally is a living system that really provides -- As we think more about things that you may want to be able to access and understand, this provides that direct access, and even getting down to regional presentations of information in Florida under the different systems and even identifying some that are in process, such as oysters in Florida, that are being developed.

It also gets you access directly to some of the regional presentations, and one of the more recent with ASMFC was the sciaenid summary. It was done in the winter of 2017, and so that literally is coming right out, and so you have habitat information from the council, from the states, and from the region that are provided in here. I think some of the additional areas that are included in the original Fishery Ecosystem Plan, one of the attachments specifically was the Southeast Aquatic Habitat Plan for SARP, and that is information that is the direct link back to that. What we need to do is we need to add and to expand, and I've already talked to Malory about getting the LCC's habitat components directly tied into some of these discussions too, because there are some queries and reviews and overviews that are the foundation for some of the blueprint that we can highlight that connectivity to.

This is the evolution to make it as up-to-date and living, in terms of habitats for our region and for all the different components, and the next area is species, managed species, and, as indicated last

time, this is the one that advanced and had gone directly online, and it provides access directly to the individual species information, and we are in continued review. At the last AP meeting, we got into the weeds on how this is being presented, both on creation of a user guide for the Ecospecies detailed information system, and it's going to be a more common user guide, and then one that is going to be more detailed, for people that would literally be putting information into the system.

The way we have it set up right now, you can access the system directly from the site, and it brings you into here. It brings you information about everything from all the -- This is something that its actual origin had to do with some essential fish habitat directives that we wanted to look at information on species by life stage and be able to have it living instead of just static. This is all integrated in collaboration with FWRI, and we created more detailed information on species by life stage that you can get almost anywhere for that species, and so we've been really expanding that, but it also gets into fishery information and into all the different aspects of the individual species. What you can do is really get into and go from a nice, quick summary to as detailed or as refined information as you want for the system.

Of course, we had discussed how we have direct connections to the very specific summaries that are provided through ASMFC on species that are using our area as well as our collaborators in the Mid-Atlantic region, New England, and National Marine Fisheries Service. In the case of National Marine Fisheries Service, it's being able to access everything from the direct highly migratory species groupings to the protected resources information, and so you're, at your fingertips, being able to walk between all of these different systems and all of these different sources of information. That is the latest generation.

On the human environment, what this does is it connects directly to sub-sections of the latest, where that review of the fishery occurred in Chapter 3, the social and economic environment, and it provides it for each of the FMPs, and so this has the linkage to going into here, and that discussion before about opportunity to put forage, that has some relevance on the habitat side of this, because I have done the same thing for habitat, also.

The idea is that we have those, and I think, ultimately, what -- Right now, they are static. They are showing that one sub-section. If those can become kind of a Google component, and I'm working with Cameron on how to do that, then, all of a sudden, those become things that we can pull and use and update and draw back and forth and become a living system even for our plans, which is -- If we get to that point, that's going to be really a powerful tool for this, and so this is emulated also in the habitat side.

Some of the other aspects of this, and I have already talked to John Hadley about it, is doing summaries of the regional perspectives on the fisheries, and this is going to be a really good place to insert some of those right in the frontend of here to understand what the fisheries are in our region from a broader perspective. Also, some of the spatial capabilities that we can add in here, in terms of fishery operations, et cetera, things that will evolve as we evolve the other tools that this connects to.

That brings us to our essential fish habitat component, and this provides everything from the most recent information across everything, which is the user guide to essential fish habitat that provides the foundation for each of the FMPs, the EFH designations, any of the refined recommendations

or refined specifications of what those designations mean, and those are included in here. I worked very closely with the Southeast Regional Office, Habitat Conservation, to pin this down, to make sure that this is as accurate -- Again, it's living, but it's updated as the designations have occurred. All of our policy statements are immediately accessible through here, and so you can go directly into the most recent artificial reef policy and laying out all of the details here.

That brings us to the spatial presentations of information, and this is something that is continually evolving. This literally is the newest generation of the systems for essential fish habitat that we just reviewed at the AP level, and it's already live and operational in the system for our site. Working closely with them, with FWRI, we were able to really provide these, and what it is, it's the shift from our previous platforms that these were presented in into a platform that even provides things such as you can add your own data into these types of systems as you're reviewing this information.

If you're looking at some of the distribution of habitats, you could actually add some of your fishing areas here or whatever. You could go back and forth and work on this, and additional guidance on how to use some of these newer tools is coming. There is a user guide for both the Atlas, or for these different components, as well as for the Ecospecies component that I identified before, and so that is one that is really evolving quickly, and it's a lot more powerful, and it also connects a lot closer to any of the ArcGIS online capabilities that we're also investigating.

Of course, some of the original threat components from fisheries threats as well as cumulative, and, originally, there was so much done under Fishery Ecosystem Plan I that those components are still relevant and are drawing to some of the basis of the foundational information for the threat matrix that's being built.

When we were doing the last iteration of Ecospecies, we also had FWRI work -- We had a forensic librarian really dig into the details, and what we were able to provide was detailed information on species by life stage and habitat, which was a directive from one of the previous EFH reviews, and the refined information is -- All of this information, and it may not be useful to look at it right here, but it's all provided. You can pull this off and look at it, but it's all integrated directly into the Ecospecies online system, and so all this detail is there, but I thought it would be good to be able to have it queryable also, if you want to be able to look at some of the sourcing or some of the details, and you could look at it kind of in one broad scope, and so it does provide that.

This is where I mentioned before, similar to the human environment, that we're also including where the representations of the habitat and environment is included, and so this could be something very similar, where the forage component would be integrated directly under here into these systems, and so you would have access to that information on a queryable capability, and that is what this does for habitat. As I mentioned, essentially, it's similar for all managed species.

That brings us to our managed areas, and, right in the beginning of the managed areas, what we've been -- Again, using the newer platforms, you really have some amazing capabilities on here and quick access to Story Maps on all of the managed areas, so you can look at everything from individual areas, and it gives you information on marine protected areas, video, as well as image links, special management zones, Oculina Bank, coral habitat areas of particular concern, and the spawning special management zones, and some of these need to be updated with the newest video, et cetera, but you have access immediately to that right on the frontend of the Story Map.

Then you have access to the new generating system for managed areas, and this provides, as I mentioned, a lot of new capabilities, and some of them I'm not even familiar with yet. Some of the newest provisions in here are pretty phenomenal, but you can go through and, as I mentioned, some of the newest things is actually add other information to this and generate your own maps from the system, and so this is a continually-evolving system that is extremely powerful.

It provides all the -- It even has dialogue and videos, and we're trying to get more of that across here, so you get a representation of what those habitats are directly, and it also includes the core managed areas, in terms of the footprints, and it also includes commercial and recreational closures for the areas, and those are some things that we have to refine, in terms of what the timings are, and there are going to be some things that need some maintenance, but it's going to be good to understand and have those all relative, so you have overall, quote, managed areas as well as the very specific core areas presented within the system, and so that continues to evolve.

Then you have all the links to all of the individual sub-components, such as -- I'm going into the deepwater marine protected areas, and we're cross-walking back and forth between the different systems to be able to do this and all the way through these. There is direct access to the coordinates, if you want to download coordinates, metadata, data downloads, and you can access those directly there.

Then you have a couple of different accesses through the Atlas and the Digital Dashboard, and then we have our links to our partners, in terms of managed areas or components, the Landscape Conservation Cooperative, and Malory will be getting into more detail, looking at our connectivity and connection into the blueprint development and how information from our system is feeding in and we're going back and forth between systems.

That brings us into the research and monitoring component, and this starts off with our existing 2018 through 2022 monitoring plan, and it provides access to the system management plans for marine protected areas and spawning special management zones and the Oculina as well as some of the long-term deepwater coral research. It provides access to the SEAMAP five-year plan document, which has everything from, as I indicated, the specific needs that are connected directly into our implementation plan to actually providing the foundation for some of the priorities for mapping in our region and focused on managed areas in our system.

In addition, it provides a link to discussion on the South Atlantic mapping strategy, and that's something that we initiated previously, and it's one of these timing things, and it is going to be integrated and live directly into the systems, and it provides a foundation by depth contour that connects and evaluates the information on the managed areas as well as on the habitats, and so we're getting into some really interesting things, looking at species diversity and richness, et cetera, that we'll be able to integrate as that continues to evolve, and so this is something that is just a footprint for the beginning of this process, and there's a lot of that analysis connecting the fishery-independent information, the habitat information, and the depth contour information to come up with guidance.

The idea too is that we're also looking at -- The core is how much of those different areas are mapped and characterized and then how do we advance that, and so then a prioritization arises through this entire process, and so that is a living component. The more recent live bottom habitat

document presents some of the foundational sub-divisions that were created by this group, and it's based on previous deliberations, but it takes into account both species and habitat and management in laying out those different components.

Then, as I mentioned earlier, we do have the link directly to the climate action plan, which provides some of those foundational recommendations that we were talking about before about needs for collaboration on understanding change. Again, some connections back to the Atlas and connections to some of our ongoing activities on citizen science relative to research, and then one of the more recent revisions and updates was with regard to ocean observing and our collaboration with the Integrated Ocean Observing System as well as the Southeast Coastal Ocean Observing Regional Association.

It goes into detailed discussions about what we envision providing and coordinating with SECOORA to support the council's activities, and it also provides connections directly into the foundational components of what SECOORA is providing, the information on strategic plans, data access, and the intent here is to be the foundation from which we expand even more collaboration.

We're already working very closely with some of the partners in the ecosystem modeling to integrate the ocean observing capabilities, and there is a build-out plan that specifies needs that, from its beginning, we were trying to identify by the council to be able to support observing within managed areas and observing of changes in our environment, and so I think there's a lot of things that this can expand to and connect and even really specifically identify how they can address council needs, and so that was important to really kind of pin that down.

Some of the old stuff was historical, all the way back into the SECOOS, and the irony is it went all the way back to the SECOOS, which the Senior Scientist, Cisco Werner, was actually involved in, and so we have some direct connections back to there, and so it will be interesting, when Cisco attends later on this week, to see the evolution of where we are now.

That actually brings us to the last area within the system right now, which is the tools, and there are user guides for both the access of the ecosystem viewers that I mentioned, the different viewers, and it lays out the information on what is available through the systems, how you can query it. It walks you through a lot more detail, in terms of really being able to access the video and create components within here as well as a still developing Ecospecies online system. As I mentioned, these were some things that we were in the weeds on at this last AP meeting, and it talks about the structure, and it talk about the layout, but it also gives you an idea of exactly how to navigate through the system.

The intent here, as I mentioned, is that this is the more detailed system. There is going to be a very consolidated, and so even a fisherman or anybody just accessing it, may be able to quickly access information, versus getting into some of the very detailed components of the system.

That is, essentially, the core of the Fishery Ecosystem Plan II. Some of the really developing sides that you don't see on here, under say the Atlas or directly into some of the other spatial presentations, there is developing catch information, and there's going to be an entire ACCSP module, where you can actually query all the different species in spatial formats and be able to look at that.

One step beyond that is that we're going to connect both the spatial information from ACCSP with species distribution and maybe begin to provide more realistic presentations of polygonal catch information for the area. On the SA Fisheries, all the fishery-independent survey information is available, and so you can access catch information, catch per unit effort, and all types of other detailed information, and that is evolving rapidly, and this is the newest system, and this is evolving very, very rapidly, and it's very powerful.

This has everything from the red drum surveys, the coastal surveys, the Pamlico Sound surveys, to all the reef fish surveys in our region, and you're able to -- For example, you can look at abundance, based on the reef fish survey in our region, and provide detailed information about those locational areas.

This is continually evolving, and we're having very specific discussions on other components that we can do, such as getting overall species distribution, distribution during spawning, et cetera, and using this information to provide that kind of context, and so this is a continually-evolving system, and that's the Fishery Ecosystem Plan Dashboard. Any questions?

DR. LANEY: Okay. Thank you, Roger. I don't know about the rest of you, but I am overwhelmed by how much available electronic information there is now, and it certainly beats the heck out of a carrying around a ten or fifteen-pound FEP II paper document, although most of you know that I have a high affinity for paper copies of things. Any questions for Roger?

DR. DUVAL: Not really a question, but just more of a comment. I really liked the new mapping viewers. I found those to be so much easier than the other ones, and I actually was -- Someone had asked me a question about HAPCs just last week, and so I was actually using the managed areas viewer, and I was like, wow, this is so much nicer than what it used to be, and I also really like the user guides. I think those are -- I just want to make sure those are front-and-center whenever -- Maybe we can create some quick links to those as well, but I think that's a really concise document that's going to be very useful for a lot of folks who are probably not aware that these tools exist on the website. Thanks.

DR. LANEY: Thank you, Michelle. That was going to be my suggestion too, is that when all those user guides are completed, that we have a button, a button upfront somewhere, where you can go directly to a user guide for a particular component, if you wish. Anybody else have comments or thoughts or questions?

MS. KNOWLTON: I would just also be excited to see how the materials are going to be worked into newsletters and outreach products, because these geospatial data are so available and applicable for so many uses, and especially to our constituents, that I think working it into the outreach materials is going to be very exciting as well. Thank you.

DR. LANEY: Thank you, Kathy. I think that's a great suggestion. Other thoughts or comments?

MR. PUGLIESE: Just that there is another module that's going to be fully dedicated to artificial reefs and have everything from video to detailed point information within any of the -- A lot of the states are doing all of their individual, but it will smash everything together and be able to view everything at one time. That's developing in the background.

MR. BREWER: To that point, Roger, you might want to check with Tom Twyford. He's got some great new video of the reef dart experiment that's been going on in Palm Beach County, and they're showing these things being set and dropped over the side and whatnot, but the thing that was the most interesting is they dropped twelve or fifteen of these things here recently, and they sent divers down to see if they were standing upright and this kind of thing, and, sure as the world, there were fish on these things five minutes later, if you can believe that.

DR. LANEY: Chester, I have a mental image of what a reef dart looks like, but do you want to elaborate on that for just a moment? I assume it's some sort of a big thing that you drop overboard and it sticks upright in the bottom?

MR. BREWER: The island of Palm Beach is hardening itself from hurricanes, and so they're putting all their power lines underground. They went through one hardening process about twenty years ago, when they got rid of all their wood poles and they went to pre-stressed concrete poles. They're going to be pulling those, and they want somebody to do something with them, and so the idea is that these poles will become, quote, darts.

You will drop them down, and they are trying different things. What seems to be the most successful right now is actually a very large concrete pad that's attached to this thing, and they drop them down, and then you've got vertical relief, which I understand is very important from the standpoint of artificial reefing, and so the material is going to be free. They put some grants together, and the FP&L is giving them a place to store the stuff and to get them assembled and ready to drop over the side, and we're really very excited about it. Like I said, they had fish on them almost immediately. I mean, they were barracuda, and barracuda are a very curious fish, but, still, they were there. They were there, and it was amazing.

DR. LANEY: Thank you for that. Anything else on this? Seeing no hands and hearing nothing from the telephone there, let's go to Agenda Item 4, and I will take the Committee Chair's appointed privilege here and just say that I am excited that Malory is here. Malory and I have known each other for more years than we would care to put on the record, in various capacities, and I am excited now that he's a fellow colleague in the Fish and Wildlife Service, but he works for the partnership, and so for the South Atlantic Conservation Cooperative, and he's here to talk to us about the Southeast Conservation Adaptation Strategy and also the South Atlantic Landscape Conservation Cooperative Conservation Blueprint Version 2.2 and the implementation strategy for that.

I will just say that I have heard, at several public forums -- One of the last ones that I attended was a town hall meeting with our local meteorologist from Channel 5 in Raleigh, Greg Fishel, talking about climate change and landscape-level management and things like that, and somebody from the audience asked if anybody had developed any sort of a sustainable landscape footprint for our area, and I said, okay, tell them. Well, nobody on the panel even articulated that there was such a plan, and I went up afterwards and made sure that I let folks know that it's there, and so, Malory, we're pleased to have you with us today, and please take it away.

MR. MARTIN: Thanks, Wilson. Yes, again, I'm Malory Martin, and I'm the Coordinator for the South Atlantic Landscape Conservation Cooperative. It's a pleasure for me to be here today, and I want to thank the council for inviting me, and thank Roger for setting that up. It's a pleasure for a number of reasons, one of which I think you just saw the opportunity and the ability for

networking that exists out there in a collaborative sense, and I think we've been working on that, and I'm going to demonstrate some of that to you this morning.

Also, it's a pleasure based on the fact that, for most of my career, I worked as a fisheries biologist, although on the inland side, but, nevertheless, I have already made acquaintance with a good friend that I haven't seen in a number of years, and it's always good for me to be among the fish squeezers and the fish-heads of the group, and so that's always a pleasure, and I'm glad to be here for that.

Once again, I'm the Coordinator of the South Atlantic Landscape Conservation Cooperative, LCC, and so a show of hands real quick of people who know about or have heard about LCCs, and I will know who I'm talking about. We have a good, knowledgeable group here, and so I don't have to go through the thing about it's not LLC. We're not talking about financial planning here. We're talking about LCC. Also, you won't be expecting me to talk about spreading mulch or landscaping and dealing with plants, and so we've got all of that out of the way, and now we'll be good to go.

This morning, I will give you a real quick overview of what I will try to touch on. Basically, it's a high-level background about the South Atlantic LCC, in particular, and then a little bit about our blueprint. Roger mentioned that before, and I wanted to be sure that I can give you at least a high-level introduction to the South Atlantic Conservation Blueprint and where we are with that. We have, notably, begun an implementation strategy for the blueprint, and I will touch on that as well, again keying off of what Roger has presented for you all's work.

The other piece is the Southeast Conservation Adaptation Strategy, and this is a regional kind of collaborative, also known as SECAS, and it involves the state fish and wildlife agencies in the Southeast Region, a fifteen-state collaborative there, and so I will talk about how LCCs roll up into the SECAS initiative.

What is the South Atlantic LCC? Basically, we're a partnership based on diverse membership of federal state agencies, non-profits, NGOs, and individuals that work together to develop this shared vision of landscape sustainability and then cooperate in the implementation of that vision and collaborate in the refinement of that vision, and so we're talking about a broad partnership here.

Why is this needed? Well, very briefly, the scope and scale of the challenges that face natural resource sustainability in our region are such that no one individual entity can tackle that alone. In fact, these stressors and challenges transcend any jurisdictional boundaries, and it's imperative that we collaborate and cooperate deeply across these broad landscape or large scales. Everything that is facing this region, from urbanization potential and the speed and the rapidity of urbanizing the environment here in the Southeast, coupled with other stressors, due to climate, due to increased frequency and severity of storm events, weather-related changes, all of those things are presenting tremendous challenges for sustainable natural resource management.

So, what do we do? Our mission is to facilitate conservation actions that sustain natural and cultural resources guided by a shared adaptive blueprint, and there is an image of the blueprint over on the right. You will notice the geography that is of interest here to us. It runs from Southside, Virginia to northern Florida, and it extends out into the marine environment to the 200 nautical miles.

The blueprint is basically a living spatial plan that prioritizes opportunities for shared conservation action in the face of future change, and so it's really this kind of roadmap that presents prioritized areas on the landscape. It's a living plan, it's a spatial plan, and it's updated, currently, every year, and so, as a partnership and as a collaborative, we are governed by a steering committee. This is a diverse group of some eighteen different organizations or individuals who participate in our governance, and this is a non-prescriptive, non-regulatory, voluntary kind of partnership, but based on this diversity of membership that provides the high-level guidance and the directional information and instruction for how we allocate our capacity towards developing those shared conservation opportunities.

We are part of a larger network, and so you will notice the piece -- If you can see the Number 14, that's the geography for the South Atlantic LCC. There are twenty-one other LCCs, and so twenty-two as part of this network, and that is both a spatial network covering all of North America, but also a partnership network that interacts broadly with entities on the right-hand side there, including the Climate Science Centers, the NOAA RISAs, and USDA Climate Hubs, among others.

Let's talk a little bit about our products, quote, unquote. This is the result of some of the collaborative work that we do, and, really, they fall into three really big categories, and I want to touch on these at a very high level. Roger mentioned that our Science Coordinator, Rua Mordecai, met with the panel at the November meeting, and he presented some in-depth information on this. Rua is the technical guru. I am not the modeler, and I'm not the guy digging in the data, and so I will have to brush over this at a pretty high level, but I think I give you a picture of what it is that we're involved with.

It's the indicators, the State of the South Atlantic, which is kind of a report card for the current ecological state of the region, and then the blueprint itself, and I will touch on each of these three categories. The indicators, there are some thirty indicators of ecological integrity that we use for the basis of the modeling that fits in and develops the blueprint. A number of those are directed at the integrity of the natural resources, but we also have indicators for cultural resource integrity as well, and all of those roll up and inform the way that the blueprint is developed.

Criteria for these some thirty indicators that are used in the blueprint include an ecological criterion that relates to the scientific validity of these indicators. They have to be able to indicate for something other than themselves, and so, for example, an indicator, a terrestrial indicator, of the condition of pine and prairie birds, for example, would also indicate for the condition of that habitat, and so that's one of the key criterion that we look at when selecting and working with the indicators.

The other is a practical sense, and so it has to make sense that the things that they indicate for actually are things that we want to consider within the model. Also, I mentioned the scientific validity, but also there is a social element as well that these things have to be embraceable by the public, and so they have to be able to understand, when we're talking about indicators, they indicate for something other than themselves, they have a scientific validity, and they're embraceable and adoptable by the public.

For example, on the marine side, the indicators that we're currently using involve an index of marine mammals, an index of habitat, the potential hard bottom condition, and then a marine bird

index, and these are three of the datasets that are updated frequently and utilized extensively, and they cover the entire geographic region of the South Atlantic LCC, and so these are applicable to how we're rolling up with the blueprint.

The next thing is the State of the South Atlantic, and this is essentially like a report card for the condition of the ecological integrity in the geography throughout the South Atlantic Region. There is roll-up here for the entire region of a grade of C, and so it's really just like the old-fashioned report card, and, if you look up in the extreme right-hand corner, beside that "C", you will see the little cellphone bars that is an indicator of our level of confidence with this grade, and so this was the State of the South Atlantic Report that was done in 2015. I have copies of this that I will leave here, and I hope you will be able to take a look at that. The idea here is to get a baseline and then, through implementation of the blueprint and some of the shared conservation actions on the landscape, that we're able to move this conservation needle and actually measure that over time.

Then, finally, I mentioned the blueprint itself, and, again, this is the culmination of the priorities that represent opportunities for shared action. It includes the marine environment as well as the terrestrial landscape from Virginia to Florida, and you will see the five priority categories on the right-hand side in the legend. It's highest, high, and medium as well as connecting corridors. These provide the spatial plan for where those opportunities exist as well as the connectivity that exists between those or among those different opportunity areas.

Real quickly, and this starts to get into some of the modeling stuff, and I will breeze through this really, really fast, but how this gets developed is the South Atlantic Region is divided into a number of ecosystems, each of which have a series of indicators that indicate for the ecological integrity of those ecosystems.

There is a program called Zonation that actually prioritizes the condition of those indicators pixel-by-pixel and kicks those out and results in a hierarchical listing of pixels that are grouped together based on their ecological integrity, and then that results in a combined assessment for the whole region, and then the connectivity piece that I mentioned is applied, linking up those high, medium, and highest priority areas through a least-cost path analysis that results in that connectivity information and then, ultimately, is rolled out to the blueprint priorities.

Again, those classes of priorities are highest, high, and medium, and the corridors cover a set amount of the South Atlantic geography. The highest covers 10 percent, and high is 15, and medium is 20, and the corridors cover 5 percent of the area in the South Atlantic Region, and so you can add that up, and that's 50 percent of the landscape that is prioritized or involved in the connectivity analysis, and those percentages come from the literature.

They are not arbitrary. They are really based on other documents and other initiatives that strive to balance conservation and human use of the landscape, and so, again, we're non-prescriptive, we're non-regulatory, and we understand that these balances have to exist for economic growth as well as for ecosystem integrity.

Again, all of that rolls up to the conservation blueprint, and then, in a number of ways, we are promoting the use of the blueprint. Just as an example here, I've listed a number of bullets for topical areas and categorical ways that the blueprint is being used now, everything from prioritizing land acquisition for conservation to the ecosystem-based fisheries management that

you folks are working with and wetlands protection and public landing planning and also even into the urban environment, in helping urban planners determine appropriate areas for things like greenways and urban trail areas.

We're talking about these blueprint uses, and you will see the blue bars that show the different versions of the blueprint, and we're currently on Version 2.2, which was just released last month, but you can see the increase in the number of blueprint uses, and we feel like we've really hit a stride in 2016 and 2017 with the number of uses that are in progress, up to some forty of those right now that we're expecting completion on a number of those through the next grant cycle, in particular, that's coming through this winter.

I would direct you to our websites to take a look at how you might be able to utilize the blueprint and the indicators and some of the results of our work. As I mentioned before, there is lots of opportunity to integrate this information and to network it, and I think it has the opportunity and the potential to be complementary and supporting, in fact, to the work that you folks are doing, and so the Conservation Planning Atlas, on the left-hand side with the website there, is really the functional area of storage for a lot of this data and a lot of this information.

It kind of functions as a poor man's GIS type of system. You can download maps, and you can stack layers and pull in different kinds of data to see how areas of particular interest or datasets of particular interest might interact with the blueprint in an area that you have particular interest in. Then, on the right-hand side, we have what's called the simple viewer, which takes an easier kind of approach at a larger geography, and so the simple viewer looks at a HUC-12 sub-watershed kind of geography and applies the blueprint priorities and the indicators and the condition of those indicators within a HUC-12 kind of geography, and so I would invite you to look at both of those websites and play around with how the blueprint might be integrated into the work that you folks are doing.

I want to move to the implementation strategy, and so we've got this blueprint, and we've got these priorities on the landscape, and so now what do we do? We've just developed this high-level, first phase of an implementation strategy that kind of gets us from the blueprint to conservation outcomes, and so we'll go into that a little bit and even dig into some of the sub-regional actions that we're concerned with.

In developing this implementation strategy, we took a logic model approach, a results chain or some other kind of nomenclature that you put to this, but, basically, what this is, it's a roadmap from the inputs, which is the capacity that we have as a cooperative, to the impact that we want to have in terms of conservation improvement on the ground.

The inputs are everything from the active involvement by members of the cooperative, such as yourselves, as well as our staff and our operational capacity and then project funds that we have, and so the question in implementation is what do you do with those inputs to get to that impact, and so we put together this logic model that kind of outlines, with a lot of lines and a lot of boxes there, but, basically, what that does is link up from the capacity that we have to the activities that we undertake as a cooperative in terms of supporting, promoting, and improving the blueprint, and then those actions result in outputs that combine into outcomes related primarily to gaining resources into the South Atlantic Region or more efficiently using the resources that we currently have, and then, of course, those resource uses roll up to an impact of improved ecosystem integrity.

The cool thing about this logic model is that each of these steps along the way are things that we can measure, and so, if you look at the bottom row, we can measure the inputs by tracking our budget and tracking the involvement of the numbers and the number of organizations and the number of individuals who are involved in the cooperative itself, all the way across to the impact that can be measured by the ecosystem score, as reflected in the State of the South Atlantic that I mentioned earlier.

I want to talk a little bit about examples about how we get to that implementation and looking at that at a sub-regional scale, and so there is not much reference on this map here, but this is the geography of the South Atlantic LCC Region, and so the top part, the North Piedmont and the North Coastal Plan, that's up there at Southside, Virginia, and the bottom part, the Gulf Coastal Plain, that's the Big Bend Region of Florida, and so we're talking about the South Atlantic coast and the inland regions around that.

I want to talk a little bit about information that we've received when we asked our cooperative members what would success look like for conservation action in your region, or in your area of interest, and, conversely, what does failure look like? Then we'll roll this up into some sub-regional actions that came primarily from some workshops that we held this past spring.

From the marine sub-region, examples of what success looks like, and some of you may have participated in this exercise with us, but things like a healthy fisheries economy and things like connectivity, which was mentioned earlier today in the Dashboard review, and things like an engaged and informed public and community leaders that understand the inherent value and the ecosystem services that are provided when these things are in a sustainable and high-integrity condition, and so that's what success looks like from the marine environment, just as an example.

In terms of implementation, we have linked to a lot of these other actions that have been provided and established through these other planning initiatives, and so things like the blueprint workshops that I mentioned that we held last spring as well as things like recommendations from your snapper grouper plan or the Fishery Ecosystem Plan as well as State Wildlife Action Plans throughout the region and a cultural piece with incorporation of the Gullah Geechee Cultural Heritage Corridor Management Plan that is closely tied to the condition of those ecosystems that form the basis for that culture's sustainability.

Some actions for conservation based on all of this information coming through the marine sub-region include supporting living shoreline efforts, and that was one that emerged from the blueprint workshops that we held last spring, and another action example is related to energy development and infrastructure that comes from the North Carolina CHIP plan. Also, developing new partnerships, and so that's one of the things that I want to do here, is to be sure that we're networking appropriately and collaboratively in a way that is complementary, so that we're not just all involved in our planning initiatives, but we're involved together in implementation of those plans.

I am going to transition now to talk about the Southeast Conservation Adaptation Strategy, or SECAS, and so a little bit of changing gears here to move to kind of a regional connection and to talk a little bit about this. Again, some of the same background for this. Landscape-scale conservation is important because of the changes on the landscape, a whole range of things that

are affecting this geography from Virginia down to Florida and over to Texas, and so the full Southeast Region, the South Atlantic as well as the Gulf, and all of the inland areas associated with that, a lot of the similar considerations that were mentioned for the South Atlantic Region.

Beginning in 2011, the member states of the Southeastern Association of Fish and Wildlife Agencies, the fifteen states, including the Virgin Islands and Puerto Rico, that are members of this Southeastern Association, they came together and basically posed the question of what do we want the Southeast Region of the U.S. to look like in the year 2060, in terms of sustainable environments, in terms of protecting ecosystem services, in terms of sustaining the wildlife and the wildlife habitats that these agencies are entrusted and are responsible for managing.

They invited the group of federal land managers, the so-called Southeast Natural Resources Leaders Group, OR SNRLG, if you like your acronyms, and the SNRLG group is the federal agencies involved in natural resource management in this same geography covering fifteen states in the Southeast, and so they came together and basically formed this initiative called the Southeast Conservation Adaptation Strategy. It was initiated by states to include the federal agencies, and then the implementation and the technical capacity, as well as the identification of conservation actions, was intended to come through the LCCs, and so this was in 2011, when the LCCs were just first getting off the ground.

There was coordination through the Climate Science Centers and also, again, incorporating a broad network of partners and even sectors outside of the area of interest for state fish and wildlife agencies, and so it was understood, really from the start, that, in order to be effective in this rapidly-growing and rapidly-changing region, that it was going to require a collaborative effort that extended across a diversity of sectors.

A number of conservation opportunities were identified and, looking at the graphic on the left, the bold, black line outlines the states of the Southeastern Association of Fish and Wildlife Agencies, and that's the fifteen member states, and then the colored regions are the LCCs that exist within that geographic environment, and so, again, the blue that extends out into the Atlantic is the South Atlantic, and the green is the Appalachian LCC, and the pink is the Peninsula of Florida LCC, and the brown is the Gulf Coast Plains and Ozarks, and tan-greenish color is the Gulf Coastal Prairie.

Those are the six, and, also, down in the bottom-right, is the Caribbean LCC, and so those are the six LCCs that exist within this geography, and so, in bringing this strategy forward, there were lots of opportunities here to connect lands and connect waters and engage other sectors through the steering committees and the cooperative partnerships that already were in existence through those LCCs. A particular interest in integrating at-risk species was promoted, because of the trust responsibilities for both the states and the federal agencies that were involved in this, and also a recognition that it was going to be required to bring in new resources.

Looking at the SECAS blueprint, looking at this graphic, you will see a bunch of colors on there that represents the planning initiatives that were undertaken individually in each of those LCCs, and so what has happened since then, and we're up to Version 2.0, is those things have been seamed together and stitched together to form a seamless blueprint that outlines priority areas, areas of conservation interest in the Southeast fifteen states, and so this particular map, and the 2.0, the areas of dark blue are the high priority, and the gray is a medium, and the green areas are the protected areas, some of which are priority and some of which are outside of priority.

This is kind of a representation of where are those high-conservation-value lands on the landscape, and, again, this is roughly 50 percent of the landscape of that region. It's a similar philosophy and application that we talked about for the South Atlantic blueprint, that that 50 percent level comes from literature values and other initiatives that try to balance that human environment with the natural environment and ecosystem sustainability.

This is Version 2.0, and there's a lot of other improvements that are in effect. It's kind of a first, or actually second, draft with improvements, but there are more on the way, and here they are, and so we expect to undertake finer resolution and then improved upgrades to the estuarine and marine indicators, because we're dealing with the Gulf, and we're dealing with the Atlantic side as well, and then better models that connect the actions and the indicators, and so I think that fits in very well with the work that you folks are doing with the FEP and the Dashboard and the tools that exist there.

Part of what we're hoping to do that will help inform that is working on some oyster reef models that help connect the terrestrial environment, or the inland environment, with the marine environment, in terms of structural habitat and then the oyster viability and sustainability that goes with that. I invite you to the SECAS website as well, and there is a number of Story Map displays on this website that show how the SECAS blueprint is being used, and it really promotes opportunities, both terrestrial and aquatic and freshwater and marine, across this fifteen-state region.

Then I think this is the final slide, but just, again, I invite you to continue your participation with our planning community. Roger has been on our steering committee since day-one, and he provides a really strong voice in helping guide and direct the work that we do. Feel free to connect with me or to reach out to our staff and contact us in any way that's comfortable for you and then, again, I would point you to our website if you want to explore the blueprint further. I think, with that, I can take any questions, if there are any.

DR. LANEY: Let me jump in at that point and say two things. One is thank you for the presentation, Malory, and two is that the South Atlantic LCC Conservation Blueprint, and Malory alluded to the fact that it wasn't developed in a vacuum. There were literally hundreds of participants that had input into that plan as a result of those workshops that were held throughout the South Atlantic LCC geography, and the third thing is that, if you care about hunting and fishing and having a place to go outdoors just to enjoy it and photograph it and wander through it, or lay down and roll around in it, whatever you want to do, you should care about this conservation blueprint, or I should say these conservation blueprints, both the South Atlantic one and also the SECAS one.

Tony, lest you feel left out, there is a North Atlantic LCC, and I hope they have come to the Mid-Atlantic and New England Council. If they haven't, jump on them and tell them that you want to have them come and talk to you, and the North Atlantic LCC has done some limited amount of work in the marine environment, looking at habitat suitability index kind of modeling approaches for some of the species that you all are jointly managing with ASMFC, and so they have done some of that work, but I think the South Atlantic LCC is the only one that's fully engaged in the marine environment and has gone ahead and extended their boundary out to 200 miles.

With that, Mr. Council Chairman, we are out of time, but I will depend upon your discretion to say whether we have time for some members, if they're interested, to ask Malory questions. Okay. Keep on going, he says, and so does anyone have any questions or comments for Malory?

DR. DUVAL: I just really appreciate the presentation, Malory. It's great to see you in your new role and not-so-new anymore, but Malory and I worked together in his former role as Deputy Director of the Wildlife Resources Commission, and so I did have a quick question about -- You said that one thing that SECAS is looking to is to, as a new indicator, is to map oyster reefs as sort of a connector in and offshore, and I was curious to know sort of where in the process that is and folks that you might be reaching out to, like our Division, that may be engaged in activities or have data that you all would be interested in.

MR. MARTIN: That is coming through the South Atlantic LCC and through the work that Simeon Yurek is doing, among others, and Simeon is a -- I want to call him a post-doc, but that's not technically accurate, but he is on our staff for the remainder of this fiscal year working on some of that modeling information, and, actually, I think Roger might know more about those details than I do, but the intent there is start trying to provide some of that linkage to actions that happen inland and even in the terrestrial environment and impacts that might accrue to the marine environment.

DR. LANEY: To that point, Dr. Duval, Simeon's office -- He has two offices, actually. He has one that's right next door to Malory's office, and he has another one that's right around the corner from my office, and so I made sure, as soon as I found out that he was interested in oysters, to integrate him into the Albemarle-Pamlico National Estuary Partnership Oyster Management Action Team, which we built upon the existing oyster restoration team that was already active in North Carolina, and so hopefully -- I think he's pretty fully integrated into that process and is talking to all of your folks, especially those working on oysters, and anybody else working on oysters, TNC and Brian Boutin and Erin Fleckenstein and that whole group of folks, and so I think we've got him pretty well networked with oyster people. Anyone else have other comments or questions or suggestions or ideas? Again, I would encourage you to follow-up on Malory's contact information there for both the South Atlantic LCC and SECAS.

DR. PONWITH: I just want to thank you for the presentation, and I can see such strong value in being able to link the work that we're doing in the marine system to this work that's being done in the terrestrial and along the edges, and it's so critical, because work done at a landscape scale is unique, and it has some real strengths to it, and the one question I would pose, and it may be rhetorical at this point, because it's a big question, and I know we're at the edge of our time, but it's just what can this council do to bolster the ability to continue doing work at this scale, so that we can dovetail it into the work that we're doing at a similar scale in the marine environment?

MR. MARTIN: That's a great question, and I think it begs the answer to the question about whether LCCs are going to continue to exist and where we stand in terms of the budget and federal funding that's been recommended for elimination, and so I think that, right now, things look like that we might continue, and we might not, but, nevertheless, I think what has been shown through the LCC experiment, if you will, for the last seven years answers your very question about the importance of collaboration at that large scale, and so I think, looking back, if you remember the graph that I showed about the uses of the blueprint and how, in 2016, that just started ramping up, and so I think we've kind of reached a critical-mass point, in the South Atlantic anyway, about moving that kind of initiative forward.

I think that it's too late to turn back now, and collaboration and collaborative conservation as a model will continue to exist, and I think everybody would agree with the statement of how important that is and how key that is to making advancements towards sustainability in the future.

DR. LANEY: Thank you, Bonnie, and thank you, Malory. With regard to Agenda Item 5, Council Actions on Habitat, I think the only one that we identified is the implementation plan input and feedback. Please get that to Roger. Roger, do you have a date certain by which you would like to have that? I know we're trying to -- The target is to have a document ready for final approval at the March council meeting, and so do you need any sort of -- Do you want to ask for it by a certain date?

MR. PUGLIESE: I can work with everybody to get pinned down -- I think some of these things already done, and some we can advance, and so I think that, as well as some of the input on tweaking the final versions of the sections, different things like that, we can schedule it and get it done in time. I don't think we need to put a marching-order timeframe on that.

DR. LANEY: All right. Sounds good. The only other thing that I know of is, due to a bunch of different family stuff going on, I have a stack of *Science* stuff that I need to get out to all of you that I think you would be very, very interested in. Some of it you probably have heard about through the news media, like all the Northern right whale deaths and all that sort of thing, but there is a lot of other really cool stuff that's been coming out in *Science*. Every week, there is usually something that I make a mental note to myself that I need to send out to my fellow council members. Is there any other business that anyone wants to bring before the Habitat Committee? If not, then, Mr. Chairman, we are concluded.

(Whereupon, the meeting adjourned on December 4, 2017.)

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Transcribed By:
Amanda Thomas
January 3, 2018

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**HABITAT PROTECTION AND
ECOSYSTEM-BASED MANAGEMENT**

Doug Haymans, Co-Chair
✓ Wilson Laney, Co-Chair
Robert Beal
✓ Mel Bell (webinar)
✓ Mark Brown
✓ Michelle Duval
✓ Tim Griner
Jessica McCawley
Staff contact: Roger Pugliese- FEP
Chip Collier - Coral/CEBA

HIGHLY MIGRATORY SPECIES

Anna Beckwith, Chair
Zack Bowen, Vice-Chair
Chester Brewer
Mark Brown
LCDR Jeremy Montes
Staff contact: John Hadley

(Continued)

SOUTH ATLANTIC FISHERY MANAGEMENT COUNCIL
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(Monday 12/4/17)

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Monday Sign-in sheet 12/4/17

Name	Last	Email	Mailing Address	How do you participate in fisheries in the South Atlantic?			If Other, please provide more information:
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Lora	Clarke					NGO	
Lora	Clarke					NGO	
David	Bush						Other NCFA
David	Bush						Other NCFA
Richen	Brame			Rec.		NGO	
Mallory	Martin						South Atlantic Landscape
Dean	Foster					NGO	
Robert	Lorenz			Rec.			
Scott	Baker						Other NC Sea Grant
Amy	Dukes						Other SCDNR
Geoff	White						Other ACCSP
Rusty	Hudson			Rec.	Charter/Headboat/For-Hire	Commercial Fisherman	Fisheries Consultant