SOUTH ATLANTIC FISHERY MANAGEMENT COUNCIL

CITIZEN SCIENCE COMMITTEE

Webinar

December 10, 2020

TRANSCRIPT

Committee Members

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Chester Brewer	Dr. Kyle Christiansen
Chris Conklin	LT Robert Copeland
Dr. Roy Crabtree	Tim Griner
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Observers/Participants

Dr. Rick Bonney	Erika Burgess
Rick DeVictor	Tony DiLernia
Shep Grimes	Martha Guyas
Dewey Hemilright	Dr. Jack McGovern
Dr. George Sedberry	Monica Smit Brunello

Other observers and participants are attached.

The Citizen Science Committee of the South Atlantic Fishery Management Council convened via webinar on Thursday, December 10, 2020, and was called to order by Chairman Carolyn Belcher.

DR. BELCHER: Good morning, everybody. I am Carolyn Belcher, chair for the Citizen Science Committee. I am new to my role, but I'm just going to go ahead and refresh everybody, especially those who are new to the committee right now or if you haven't been listening all morning on what our general logistics are, and so, those of us on the committee, if you have questions or comments or want to make a motion, please raise your hand. For those of pretty much versed in the hand-raising, your hand is up when it's red, and it's down when it's green.

The staff lead for this is Julia, and she'll call on folks with raised hands for discussion. Voting will be done by consensus, if possible. If consensus is not reached, we'll do a voice vote, and Julia will do the roll call for the names, and then please use the question window to address any technical issues you might have for staff.

The current committee members are myself as Chair, Kerry Marhefka as Vice Chair, Robert Beal, Anna Beckwith, Mel Bell, Chester Brewer, Kyle Christiansen, Chris Conklin, Lieutenant Robert Copeland, Roy Crabtree, Tim Griner, Jessica McCawley, Steve Poland, Art Sapp, and Spud Woodward, and then our staff lead is Julia Byrd, and support is Roger Pugliese and Cindy Chaya.

Our agenda, we're going to go through -- There is only three main items that we have going on, and hopefully the ones around that obviously will take no time. As indicated earlier, the agenda will stand as-is, with the hopes that we'll be able to finish that before moving into Full Council, and does anybody have any other suggested edits to the agenda as it is? Hearing none, we'll approve the agenda. The June 2020 minutes were presented to the committee for review. Does anybody have any changes that need to be made to the minutes, or can the minutes stand as are?

MS. BYRD: No hands raised, Carolyn.

DR. BELCHER: Okay. Seeing no issues, then we will move forward with approved minutes from the June 2020 meeting. From there, we'll move into Agenda Item 1, which is the Citizen Science Program Planning, and I will turn that over to Julia to carry us through. Mainly, what we're looking at is reviewing, discussing, and considering adopting the revised program vision, mission, goals, objectives, strategies, and indicators.

MS. BYRD: Thanks, Carolyn. To kind of give just a quick kickoff, again, I know you all have heard Rick Bonney's voice many times, and many of you have had an opportunity to meet with him as we've developed the Citizen Science Program, but Rick and I are going to be kind of tag-teaming the first two agenda items, and so we'll be kind of going back and forth and presenting information, and so I just wanted to make you all aware of that and welcome Rick to the committee.

To get into the first agenda item, which, as Carolyn already mentioned, is really kind of reviewing this program planning and kind of evaluation kind of document, the first thing we wanted to do is give a quick update on what kind of program planning and evaluation activities have occurred during 2020, and so the Citizen Science Operations Committee has met multiple times this year to work on this, and they have kind of developed and refined the program vision, mission, goals, objectives, strategies, and indicators, and then they've also been working to help kind of identify the audience that the Citizen Science Program is trying to engage with as well as discuss what

some of the questions we should be asking, both through kind of project and program-level evaluation.

Kind of their work has culminated in what we're presenting to you today to get your feedback on, and then you guys, at the council, as our last Citizen Science meeting in June, actually reviewed Attachment 1, which is the program planning document that we'll be pulling up in a minute, and you provided kind of initial feedback and guidance on the refined program goals, objectives, strategies, and output indicators, and so, as Carolyn already kind of alluded to a few seconds ago, kind of what we're trying to do today at this December meeting for these two agenda items is, first, we'll pull up the program planning document again, and, again, this is the document that houses the vision, mission, goals, objectives, strategies, and indicators.

We will want you guys to review that and discuss it, and then, eventually, we're hoping that, during this committee meeting, you will consider adopting the revised program mission, vision, goals, objectives, strategies, and indicators.

Then our second agenda item, which we'll roll into next, will have you guys kind of review, for the first time, a draft program evaluation plan proposal, and that was kind of put together by Rick Bonney, based on input from the Citizen Science kind of Operations Committee discussion, and then they actually provided feedback on this proposal as well, and so, after we kind of present an overview of that to you, we're hoping to get your guidance and recommendations on that proposal.

To take kind of one step back, and I know we talked about this at the June meeting, but I wanted to briefly mention, again, kind of what evaluation is, and so it's the systematic collection of data that's used to measure kind of strengths and weaknesses of policies or programs or products to determine and improve their overall effectiveness, and so it's really kind of combining multiple approaches to determine whether something works.

We talked about this a little bit in June, but we have kind of a lot of different things going on in the Citizen Science Program, between kind of programmatic-level activities, kind of projects that are underway, projects that are under development, and so we are really talking about doing kind of individual project evaluations, which is something that we kind of started on and are trying to kick off for our kind of individual projects, but, when we are talking today with you guys, what we're really interested in focusing on is kind of program-level evaluation.

In June, we talked a little bit about what things are needed in order to do an evaluation, and so you really need kind of a mission, a vision, goals, objectives, strategies, and indicators, and so that kind of lays out what your goal posts are and the roadmap to kind of reach those goalposts, and so that's just a quick kind of overview and a recap of where we left things off in June, and so now the next thing I wanted to do is pull up Attachment 1 for you all's review and discussion.

This is the kind of program planning document that you guys originally reviewed and provided feedback on in June, and so this is kind of the second time you're looking at this document. Any changes or updates that were made to this document, the language is either -- There is kind of a strike-through through it or it's kind of highlighted in yellow, and so the main changes that you will see in this document are a revised vision and mission statement, and I will talk about that in a few minutes, and then there are also, towards the end of the document, two new kind of indicators

that were included in this document, and I will kind of mention and walk you through those in just a couple of minutes.

To give you a little bit of background on why there is an updated vision and mission statement for you guys to review, at the Citizen Science Operations Committee, we're working to develop kind of goals and new objectives and strategies. They went back and reviewed kind of the old vision and mission and felt that, now that they have revised all of the goals and objectives, that they wanted to revise the vision and mission statements as well. They felt that kind of the vision statement could be loftier, and they really felt that it should kind of address -- Be kind of inspirational and address kind of what the program is working towards.

Then, for the older vision and mission statements, they were also very similar, and so the Operations Committee felt that there should be kind of a greater distance, or more separation, between those two things. When they were talking about kind of revising the vision and mission statements, they were thinking of the vision as being something that was inspirational, kind of showing what the program is really working towards, and that it should be kind of short and easy to remember, and, when they were talking about the vision statement, that that should really encompass kind of the who, the what, and why of the program and be really explicit in what we're trying to do as a program.

The old vision statement was to produce data that will support and improve fisheries management. The new vision statement is advancing science and increasing trust one project at a time, and, when the Operations Committee kind of made these changes, one thing that they felt pretty strongly about was that it was really important to incorporate this idea of trust into the vision. Since the beginning of the development of the Citizen Science Program, kind of increasing trust among stakeholders has been a really kind of critical piece of what we were trying to do with program, and so they felt that incorporating this idea of trust in the vision statement, and then they also really liked the idea of this one project at a time.

Projects are kind of the building block of the program, and so they felt that that was really important to highlight and kind of led into the new mission statement, and it also notes that kind of this one project at a time idea indicates that this is a program -- This is something that's going to grow over time, and it's not immediate or overnight, but it will grow as we get more and more projects.

For the mission statement, the old mission statement was to improve information for fisheries management through collaborative science, and the Operations Committee is recommending changing that to build and maintain a program that improves information for fisheries management through collaborative science. The group felt that it was important to include this idea of the program, building and maintaining the program, in the mission statement, because that's really kind of what we're trying to do, and so I will pause here, to see if anyone has any thoughts or questions on the new vision or mission statement, or, Rick, I don't know if you have anything that you want to add at this point.

DR. BONNEY: Carry on.

MS. BYRD: Thanks, Rick. Any thoughts on the new vision and mission statements? I am not seeing any hands raised, Carolyn.

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DR. BELCHER: Okay. Continue on, Julia.

MS. BYRD: Okay. You guys reviewed kind of the goals and objectives and strategies in more detail in June, and so I'm not planning -- Art. Sorry. I just saw your hand. Go ahead.

MR. SAPP: I just wanted to put a positive statement on it, and I really like it. I think you all nailed it on that one.

MS. BYRD: Thanks, Art.

MR. SAPP: The vision statement and mission statement, that is.

MS. BYRD: Thank you so much. All right. In the interest of time, I'm not going to kind of walk through in detail the goals and objectives. However, if you any of you guys have any additional kind of thoughts or edits, anything like that, that you guys want to share with us on any of these kind of goals, objectives, or strategies, please feel free to raise your hand or let us know.

The first goal deals with kind of designing and implementing and sustaining the actual kind of program framework, and then there are three objectives that we have laid out to do that. Again, I'm going to kind of walk through these quickly, unless folks have specific questions or feedback, since everybody had an opportunity to kind of walk through these in more detail in June.

Goal Number 2 is really focused on facilitating the development of individual projects that meet the council's identified research needs, and then there are four objectives to do that. Goal 3 is focused on data and ensuring that the data for the projects are kind of fit for the purpose, accessible, and robust. Again, there are three objectives related to the data.

Then Goal Number 4 is really focused on learning, collaboration, and program engagement, and one of the things that you guys mentioned, as we walked through this document in detail at your June meeting, is that you really kind of highlighted the importance of this goal and how kind of challenging this goal can be in kind of fostering engagement in a program over the long term. There are five objectives under this Goal 4, and, again, I'm not going to walk through them, in the interest of time, but I wanted to quickly see if anyone had any feedback or additional thoughts on any of these goals, objectives, or strategies.

DR. BONNEY: The strategies below the open bullets below the closed bullets, just to be clear.

MS. BYRD: Thanks, Rick. Carolyn, I see your hand raised.

DR. BELCHER: No, and I was just asking if anybody had anything they would like to add.

MS. BYRD: I am not seeing any hands raised. I think we may be okay to move on, and we talked about these a lot in June, and so I will go ahead and move on. The last part of this document is kind of the draft indicators of success, and we kind of walked through and reviewed these in June, and so, again, I'm not going to kind of walk through these bullet-by-bullet, but there are a couple of new ones that are highlighted in yellow here that I wanted to point out, and these are kind of output indicators of success, and so they are kind of things that you can kind of tangibly count or

do to get a sense of what the program has accomplished and if the program is doing kind of what we want it to do, and so these are the things that we will be looking at, in part, moving forward, to kind of gauge how we're doing.

We have added two new output indicators of success to this document, and these were both added after looking through the report that Jennifer Shirk provided on her research on the development of the council's program, and these were two things that she had recommended in her report, and so we thought they would be appropriate and good to include in here.

The first one is we're adding an indicator looking at the number of research priorities that have been addressed through projects and then looking at adding one more, which is the number of times the program is approached for an endorsement letter or a letter of kind of support, and so those are two other kind of new output indicators of success that we've added, and, again, I'm not going to walk through this list, but, if anyone has any questions or thoughts or any things that they think need to be added or deleted from this list, we would love to hear from you.

DR. BELCHER: Any comments or questions?

MS. BYRD: I was just going to say, Rick Bonney, feel free to jump in if you have other things to add as we're walking through this.

DR. BONNEY: Looking good.

DR. BELCHER: Julia, I just had a couple of things just to throw out there. Number of research priorities that have been addressed through projects, is that successfully addressed through projects, versus just the pings of people applying and trying to hit a research priority?

MS. BYRD: With this one, I guess it's -- At least from my point of view, I was thinking of it's the number of projects -- So do we have projects that are addressing different research priorities, or are they all addressing one priority, and it would be great to -- So we update the citizen science research priorities every two years, and I think, as a program, we would love to have projects that cover different topics that -- Different stakeholders and fishermen may be interested in different things, and so we would eventually like to be able to provide projects that could meet different data needs and appeal to, perhaps, different groups of stakeholders, and so I think this idea of whether -- I guess it depends a little bit on what your idea of success is.

Things that we will be looking at under kind of Goal Number 3 here, some of these strategies and objectives are looking at how the results of a project have been used and whether the data can be used in the way that it was intended to be used, and so I was thinking of that indicator as kind of more of a count of how many research priorities we're hitting and then looking at some of these other things, to think more about, well, did we collect data in a way that it was able to be used as we intended it to be used, and does that answer your question at all?

DR. BELCHER: Yes, and I think maybe the way that you've said that -- If there's a more concise way to say that that's a little clearer than what's in that statement, because, as I'm reading that, I'm thinking about just that it's projects that are pinging your research priorities, the number of times that you've had a project ping, as opposed to the diversity of research priorities that are pinged. Does that sound -- Does that make sense to you, what I'm saying, because, to me, it just

seems like projects that keep hitting a research priority, as opposed to the actual number of research priorities that are being investigated. I mean, I understand your point is that you could have twenty-five projects that all hit under snapper grouper, as opposed to twenty-five projects that hit snapper grouper, dolphin wahoo, shrimp, the diversity of research priorities, and that's kind of what I see you getting at.

MS. BYRD: Thanks, Carolyn, and I think we can definitely clarify this language so that it better kind of addresses that. Mel, go ahead. I see you have your hand raised.

MR. BELL: I agree with Carolyn's point there, and that's sort of the feedback mechanism, what you had up there before, which is are we doing what we said we wanted to do, which is do things that help us with management purposes or whatever, dealing with research areas, but I think adding some clarifying language there would be great.

MS. BYRD: I'm happy to do that, and, as long as you all are comfortable with kind of staff taking on this -- Clarifying this language, we will be sure to do that before these are kind of finalized.

DR. BELCHER: Yes, I think that's good. Then some other clarification, and so number of times program is approached for an endorsement letter, and so I'm assuming that this means this is outside funding that people would be pursuing that they think would give you feedback into South Atlantic Citizen Science Program needs and not necessarily if we were doing a solicitation, and, obviously, that would be a little bit nepotistic, if we were giving an endorsement for our own funding, but --

MS. BYRD: That's right, Carolyn, and so the Citizen Science Action Teams actually developed a framework for an endorsement program, and the idea is to kind of show support for other folks who may be doing projects that fit within kind of our program's kind of research needs and their developing kind of the projects in the way that we are encouraging people to do by having kind of collaboration amongst different stakeholder groups kind of throughout the development of projects and that sort of thing.

The framework for the endorsement program is complete, but the endorsement program hasn't been launched yet, and so that's something we'll be looking to do in the future, and so you're right in that this -- There is a process laid out where people can kind of, and I guess "apply" may be the best word to use, for an endorsement, and then we would provide them with kind of a letter of support and that sort of thing, and so correct in that these are projects that we aren't necessarily directly involved in.

DR. BELCHER: Okay. As long as that's clear somewhere in the document. Like I said, it's just, as you read those things independently sometimes, without the fluff behind it, it makes it difficult to understand, when you think about what we're looking to do within our own program, but that makes sense. If you have that idea of the endorsement group, or the assessment group, then I think, just as long as there's a reference to that, that will just clarify it a little bit better.

MS. BYRD: We can definitely clarify that language in here, too.

DR. BELCHER: Does anyone else have any comments or questions for Julia relative to the indicators of success?

MS. BYRD: I am not seeing any hands raised. Now that you all have kind of had an opportunity to review this document and provide feedback on any kind of additional changes that were made, what we were hoping to have you guys do is consider adopting these revised vision, mission, goals, objectives, strategies, and indicators, for us to kind of move forward with for the program, and, ideally, we would love to have this in the form of a motion, if folks are willing, and I have drafted a draft motion that could be considered, or someone else can kind of change the language as they see fit.

One thing I do think that's important to note is that, if adopted, the revised mission, vision, goals, and objectives would be incorporated and updated in the citizen science SOPPs, whereas the strategies and indicators will be housed in documents kind of outside of the SOPPs, and those are things that may change more often than kind of the vision, mission, goals, and objectives, which we don't anticipate kind of changing within the program in the near term. Kerry, go ahead.

MS. MARHEFKA: **I will make a motion to adopt the revised Citizen Science Program vision, mission, goals, objectives, strategies, and indicators, with modifications as needed.**

MR. BELL: Second.

DR. BELCHER: Is there further discussion on this? **Any objection to the motion?**

MS. BYRD: I am not seeing any hands.

DR. BELCHER: Okay. **With that, the motion passes.**

MS. BYRD: All right. Thank you, guys, for that. Carolyn, I think that's all we have for Agenda Item 1, and we can move on to Agenda Item 2, if you're ready.

DR. BELCHER: Okay. Great. Thank you for all of your work on this, Julia. I know it's obviously not a small task, for sure.

MS. BYRD: We've had a lot of really wonderful people working on this. The Operations Team has met six or seven times over the past year, working on this, and I see that many of them are on the call today, and so also a huge thanks to all of them for the work that they've put in in doing this, and I think it's a really kind of polished document that they've been able to kind of put together, and so thanks to everyone who has contributed.

DR. BELCHER: Agreed. Okay. Moving on, Agenda Item 2 is Program Evaluation Plan Options. Our committee action is to provide guidance and recommendations on the evaluation plan proposal, and so, Julia and Rick, it's all yours.

MS. BYRD: All right. Rick, take it away.

DR. BONNEY: Okay. Citizen Science Program evaluation is really fun, and it's really enjoyable, especially when I get to work with a group as competent as you all are. I said this in June, and I will say it again, and I've been doing this kind of work now, helping to develop and implement and evaluate citizen science, for approaching thirty years, and this is one of the most enjoyable

and effective ones that I have ever been a part of. This is a great team, and sometimes you may not see what you're doing, because you get stuck down in the seagrass, but it's astonishing what the Citizen Science Program has already accomplished in just a few years.

Now, when some people think about program evaluation, or any kind of evaluation, they think, well, when we get done with it, we'll figure out if it worked or not, and, in some ways, that is what evaluation is, but, in order to figure out whether a program has worked or not, you need to have all of that stuff that we have just spent the last year developing, the goals, the objectives, the indicators, the strategies, but you need to begin the program evaluation in the beginning of the program by developing all of that stuff and by collecting baseline data, so that, as you collect information about your program outputs and outcomes over time, you can compare it back with that baseline data to see whether anything is changing and improving and getting better or, hopefully not, getting worse.

It's really essential that you begin program evaluation right from the get-go, and I'm really pleased that this group has bought into that and has been willing to listen to my ideas and all work together to move this along. I also want to kind of baseline is pronounced "baseline", why Vaseline isn't pronounced "vaseline", but that's for another day. Okay. That's why we've already begun the process of evaluating the program, and then the next bullet says, as you have exhaustively heard just now, but also back in June, when we talked a whole lot more about the process of program evaluation.

In order to talk about the program evaluation, we need to just quickly review the program development progress to-date, and so the first click, the first goal, is to develop, implement, and sustain a program framework, and this framework has been developed, and, as I've said before, this is the first time, to my knowledge, and my knowledge about the citizen science field is pretty comprehensive, but this is the first time that I'm aware of that a program has ever been developed for citizen science to create a framework that will then guide the rest of program development. It's really awesome, and it's been done, and you can read all about it on the Citizen Science website, and you can see it all in the SOPPs, and, by the way, I don't think -- Julia, we haven't mentioned the *Bioscience* article yet, right?

MS. BYRD: No, and go ahead.

DR. BONNEY: Right, and so, back in June, we told you that we had submitted an article to the journal *Bioscience* that documents the conception and progress, to date, of the SAFMC Citizen Science Program, and I'm very pleased to tell you all that it was just accepted a few days ago, after one revision, and we're really excited, and it seems to be on a fast track for publication, and so it may not be all that long before it's out and ready to be seen by the world.

One of the main things that that paper does is it documents the development of this program framework, and it talks about how this is unusual, if not unique, in the field of citizen science program development, and so that's a real feather in the cap for the council, to have this article coming out. If you're not familiar with *Bioscience*, it's one of the most prestigious journals in the world, and I think it's the seventh-largest science journal in the world at this point, and, through the generosity of the Pew Charitable Trusts, it's going to be published in what's called open access, and so anybody will be able to read it, whether or not they have a subscription to *Bioscience*, and so it should get widely seen, and this is really exciting.

Goal 2 was to take that framework and begin facilitating the development of individual projects. Well, we've done that, and, when Julia gets to the program update later, you will hear more about FISHstory, which you've heard about before, and more about the scamp release project, and I think even about some other ones that are in preparation, and it's at the point now where Julia has groups calling her and saying we want to do something together, and can we write a grant together, work on a project together, and so the development of the individual projects is well underway, all using the framework, which you all developed and whose outline will be published in the *Bioscience* article with links for anybody to go find all that documentation, thanks to Julia's hard work in making all the tables for that paper.

Then the third goal was to ensure that the project data are accessible, robust, and fit for purpose, and we have been designing all these projects collaboratively, to ensure that their data will be as useful as they can be, and so figuring out whether these goals, and the objectives to meet these goals, are being achieved over time is not going to be all that hard for these first three goals. We already have projects, and we're going to be getting data, and we're going to be able to look at those data and try to use them in stock assessments and use them for other management applications and say, yes, this is great, or we need a little more of this, or a little less of that, but it's not going to be that hard for the program to figure out whether we're achieving these goals and whether the program is being successful in the ways set out by these goals, but, if we look at Goal 4 --

Can you go back to that, because I also wanted to mention that Julia is working as hard as she can to try to do evaluations of individual projects, and those will also determine their effectiveness, and evaluations of those projects -- There really isn't funding in hand to do them right now, but Julia is figuring out different ways of using other pieces of the project to do evaluations.

For example, she is co-advising a student, and I might get this wrong, but I think it's College of Charleston, if I've said that right, who is doing a thesis on ways of recruiting and motivating anglers to use different citizen science program reporting techniques, and some of what he's doing will help to evaluate some of the work that Julia is leading here, and so we are going to have those individual project evaluations as best as we can.

When you look at Goal 4, that one is much more complex, as Julia already alluded to, because here we're talking about fostering mutual learning and collaboration and engagement, which is qualitatively different from the first three, and what is mutual learning? What is collaboration? What does engagement mean? I have actually had an $800,000 grant from the National Science Foundation over the last few years to simply define "engagement" and figure out how to measure it and measure it, and we came up with a whole bunch of different scales to do that, and you could do the same thing with mutual learning, and you could do the same thing with collaboration, and there is different kinds of engagement, and so our scales aren't a one-size-fits-all.

First of all, we've got to point out that these are really important goals, but they're squishy. We all want to see this happen, but we don't really know what it looks like, and then, if you recall the program vision, which you all just approved, it says to advance science and increase trust, and what is trust? Do we have it? Do we not have it? How badly do we have it, and how much do we need it?

When we wrote the article that we submitted to *Bioscience*, there was a theme running all the way through it, that we hoped that this program would build an increased trust, and one of the things that we've talked about ever since our very first meeting back in Charleston, and I think it was almost five years ago now, was this kind of citizen science work is fundamentally different from a lot of the work that I usually do with birds, because, when you go out and report how many birds you see, nobody is really going to disbelieve you, and you have no incentive to see more or fewer birds, but there is a perception, and I don't know that it's true, but there is a perception that it would be possible for fishermen, or fishers or anglers, whatever term you want to use, to misrepresent data in their best interest, or what might seem like their best interests.

You could say the same thing about hunters or anybody that -- You could say the same thing about people who are extracting shale oil. How can you trust the data that they're using when it may be used to regulate against them?

One of the things that we've talked about is, if we have the people who are catching the fish involved in a meaningful way, a collaborative way, a co-created way, right from the beginning, we may be able to increase trust, so that everybody agrees on what data are being used and what they mean, but we don't really know if that's going to work.

To determine whether learning and trust are increasing over the time that we have this program going, we first need baseline information on the knowledge and attitudes and collaborations and engagement and trust levels of various stakeholders, and we ain't got it right now, except for a very, very few papers that have been written.

What I have suggested that we can do is try to gather some of this baseline data and then compare it with information about these same attributes after the various stakeholders, and not just fishermen, but the managers and the scientists and everybody else have engaged with the program for at least a year, but probably even much longer.

I have suggested that there are some very specific questions that we need to answer, and a lot of these came from those indicators that you saw in that last document that Julia had highlighted a couple of things in yellow, and I took a lot of the questions and indicators that were in there, and I made them into more specific evaluation questions for this program to consider, and so the first one is, is the Citizen Science Program enhancing the decision-making process, by helping to increase trust and transparency among fishermen, scientists and managers?

The second one is, is the program empowering constituents to become more engaged in the science and management process, and do they feel that their concerns are being taken into account? The third one is, is the program changing managers' perceptions of how citizen science data can be used? The fourth question is, is the program increasing scientists' willingness to learn from and work with constituents? That's really, really critical. Then one final question is, is the program increasing constituent awareness and understanding of the scientific process?

Now, if we could answer these questions, and if we could develop a program that did all of these things, well, maybe we could help to fix Congress, and I don't know about that, but this is the first step in that direction, and so the next slide shows you that what I am suggesting that we could do now to get started on this, even as we wait for the projects to continue and the data to be gathered, that we can begin to gather the baseline data about trust and transparency and learning through a

three-stage process of interviews, developing a survey, and then implementing and analyzing that survey.

We'll quickly go through all three of these, and I'm starting with the interviews, and so what I am proposing is telephone or Zoom interviews with twelve members of the fishing community ecosystem, and now this fishing community ecosystem is something that we wrote about in the draft, in the *Bioscience* paper, and we really like the way that -- It was actually Leda Cunningham who came up with this idea of this ecosystem, and she originally called a it a holy trinity, and we thought, well, maybe not, but we came with this fishing community of the people catching fish and the scientists and the managers, and so you might say, well, how much can you learn by interviewing twelve people, and my answer would be, well, enough to get a PhD. You would be surprised at how many PhD thesis have been written with really good, solid interviews and analyses and follow-up interviews with as few as twelve people.

As long as you do a sample, and you make sure that you're really talking to the right people, and so one of the things that we'll need to do is I will need to work with the council to make sure that we come up with the twelve best people we can think of who would agree to be interviewed to help us understand their views and knowledge and understanding and attitudes and trust levels, and it will take me about four to six months to do that, because first I have to recruit the people to interview, and then I have to do the interviews and record them, and then the interviews have to be transcribed and coded and analyzed, and then a report needs to be written about what we've learned from that.

I think, just from that work alone, we would be able to write a really interesting paper about the status of knowledge, learning, collaboration, trust, and transparency within the community ecosystem that feeds into this council, and in fact a lot of other councils around the country.

The next slide, what I'm suggesting is that, based on what we learn from those interviews, that we will develop a survey that can be deployed much more broadly to the community, and now we're talking about getting out to several hundred people, and so we would figure out what we learned from those and come up with the most salient questions to ask the wider community, and some of those questions will be asked of all respondents, and some will use logic, so that different audience sub-categories would get different questions.

The survey would be pilot tested with a handful of people, to make sure that it's clear and easy to understand and can be done in just a few minutes, or however many minutes we decide is optimal for this, and developing the survey and doing the pilot testing will take probably about three months, and then the third stage is the actual implementation and analysis of the survey.

Now, don't ask me, in the question-and-answer, how exactly I and Julia and others are going to figure out who the respondents are going to be, because we haven't gotten that far yet. I know we can do it, and we've done it many, many times before with other audiences, and I really haven't sat down and figured out how are we going to reach fishermen or managers all the way across the council, or even some other people, like people who are using fish, like chefs and restaurants that are trying to be sustainable in the way they buy and use fish.

I can't answer it specifically right this minute how we would get the email addresses to send to the respondents, but I know we can do it. This would yield a really wide understanding of issues

across the field, and I don't think anything like that has been to-date, and I know there have been little bits and pieces of it that have been done, and North Carolina has done some interesting work, I know, and I need to learn more about that, but the results of this survey will yield baseline data that can be used to measure change over time among all individuals participating in or affected by the program, and I would think that phase would take about three months as well, and so, altogether, we're talking about something that would take about a year.

I believe that that is the last slide, Julia, except for one that maybe has a timeline, and so you may have questions or concerns or suggestions or heartburn after hearing this proposal, and I don't know how long we want to go into the lunch hour here, but this was the end of my formal comments, my formal presentation, and I'm sorry that I didn't really have time to make too many jokes this time, but here's one that I will give you.

Did you hear about the vultures that were getting on a plane flight? They opened up plane flight again for everybody, and these three vultures were getting on, and they went up to the ticket counter, and the ticket person said, do you have any baggage to check, and the head vulture said, no, just carrion.

MS. BYRD: Love it, Rick. Before we kind of turn things back over to Carolyn, I think I just wanted to mention a little bit about this slide that's projected on the screen now, and I should have mentioned this upfront, but so Attachment 2 is this longer version evaluation proposal document that Rick put together, and so we figured it would be easier to kind of wade through it by putting together some slides and walking you through it, and, in that, we -- In Attachment 2, we kind of suggested a proposed timeline for this that I wanted to quickly mention.

The ideas we were thinking about were having the interviews run from kind of January through July-ish of 2021, and then work to develop the survey from August to kind of October of 2021, and then actually try to implement and analyze the survey in 2022, and so that was the kind of proposed timeline that we included in your Attachment 2 document that we wanted to mention as well before we turn things over to you guys to kind of ask us questions or provide any input or guidance on this proposal.

DR. BELCHER: Thanks, Julia. To the group, do you have any specific comments or questions that you would like to ask of Rick? Thank you for your time today, by the way, sir.

DR. BONNEY: No problem. I always enjoy it.

MS. BYRD: All right. Dewey has his hand raised. Go ahead, Dewey.

MR. HEMILRIGHT: Thank you. What would be the purpose of the interviews? Is it to get the knowledge of fishers and people about citizen science, or what would be the interview purpose, that you would be asking them to give a life history lesson, or just what?

DR. BONNEY: So, for example, we don't really know right now, across-the-board, how willing scientists are to use and/or accept citizen science data, and I know, in the ornithological world, how it works, and I don't really know, and I don't think too many people do in the fisheries world know, how accepted this information is and how it's thought that the information can be used.

To be overly simplistic, I talk to a manager who says, or a scientist who says, these data are never going to be good enough to use in a stock assessment, and they're never going to be good enough to use in making any kind of management decision, but what about five years from now, when the data are being used in stock assessments or management decisions, and going back and talking to that person, and have they changed their mind? Has their acceptance level changed?

That's an example of something that we would learn from talking to folks about what is the general perception about the utility of these data, the accuracy of these data, and another kind of question would be along the lines of do you think that managers are going to listen to you? You're a fisher, and you've collected these data, and you've caught these fish, and do you really have any hope at all that anybody is going to listen to you and pay attention to your findings, and we may, over time, find that there is much more of a back-and-forth, a give-and-take, where the data are being paid attention to, or being used, and decisions might be made that still a fisher may not really agree with, but might understand a whole lot more, or managers might change and make decisions in ways that they didn't know they were going to, based on the data.

Until we really talk to people and can understand the answers to these questions right now, we've got nothing to compare it against, and we don't really know -- We know that all of the fishers who are part of the council totally understand how the council works and how a stock assessment works, but what about all the fishers who don't come to council meetings and don't read this information and don't really know how the process unfolds?

By being more of a part of the process, collecting the data and being more involved in the process going forward, might they increase their understanding, their trust, of the whole process, but, again, we don't really know until we have a baseline understanding of where we stand with that.

I can tell you, for example, switching over to the bird world for just a second, that we had folks in the Fish and Wildlife Service that told us, maybe ten years ago, that they were not going to be able to do anything with the data that we were collecting on raptures in the west, particularly bald eagles and golden eagles, and now, ten years later, they are using those data in all kinds of decisions about what can be logged and what can be mined, in terms of affecting nests of those eagles, based on that citizen-collected data, and so they have completely changed their opinion, and they completely trust that, when the bird watchers tell them there's a bald eagle nest there, that it's there. I don't know whether I have answered your question, but I have sure tried.

MR. HEMILRIGHT: You did a good job, and I've got a little thick head, and so it takes me a while to process some of this philosophy stuff. Thank you.

MS. BYRD: Thanks, Dewey. Mel, go ahead.

MR. BELL: I was just going to also thank Rick for his continued help with this, and I view him as sort of the guru in this area, and, if he says he is impressed with what we're doing, that means a lot to me, but I do really appreciate his continued help as we've done through this, and, as you've seen, we are kind of going where folks haven't gone before in the area of marine fisheries, and, as Rick was just talking about with Dewey, I mean, it's much more something that has already been accepted in the bird world, but we're now entering the world of fish and fisheries, but it's just great to see what you guys have done, and I do appreciate Rick's continued help with this as we move along, and so thanks.

Rick, I will tell you that, in this virtual world, telling jokes to a screen -- You know, you just kind of -- It's tough. It's real tough crowd, and it's hard to read, but thanks for your interjection of a little humor there.

DR. BONNEY: Always.

MS. BYRD: Carolyn, I don't see any other hands raised right now, and so I think the things we might be interested -- If people have suggestions on maybe some of the kind of evaluation questions that Rick went over, or if you have concerns about kind of this plan or the proposed timeline, those sort of things, that would be great to kind of hear more about, and then, as we move forward with this, and I know Rick already mentioned this, but I think it will be really important to make sure that we identify kind of the right people for these interviews, and so we would probably be reaching out to you guys, as council members, to kind of help us figure out who would be the best folks that we should interview. We will leave it at that and see if anyone else has any additional information or thoughts on kind of this evaluation proposal as we kind of move forward.

DR. BELCHER: Anyone from the group have any questions or suggestions for Julia? Julia, I will ask one question. If you don't get any immediate feedback, do you have a deadline, or a date, that you would like to hear from outside-of-the-meeting suggestions, as far as audience for the interviews or anything like that?

MS. BYRD: I will defer a little bit to Rick, and I know, when we talked, and I can't remember, but last week maybe, we -- It will be good for us to start thinking about who we may want to include in these interviews I think sooner rather than later, and so we would love to hear suggestions from you guys, certainly, in the next month or so, or maybe January sometime, and, Rick, I don't know, and you probably have a better sense of timing.

DR. BONNEY: Right. Well, we're coming into that time of the year where, even during COVID, things really start to slow down for the holiday season, but, certainly by the beginning of January, I want to really get this ramped up and start getting interviews done by the middle of the month, and so probably early in January we'll want to identify many, if not all, of the people who we want to interview, and any suggestions at all would be welcome. If anybody wants to volunteer, and I won't guarantee that we will choose you, and you're going to have to -- It will be an audition, a joke-telling audition, but, if you do want to volunteer, we would certainly look really hard at what you bring, in terms of information about these issues, to the interview process.

MS. BYRD: So perhaps, in early January, I could reach back out to folks, to see if they have any kinds of ideas or suggestions, or folks are welcome to email me whenever, and I will make sure that we bring Rick into the loop of those discussions as well. Dewey, I saw you had your hand raised.

MR. HEMILRIGHT: I would like to throw my name in for an audition, if possible. Thank you.

MS. BYRD: Dewey, thanks, and Anna just suggested you through the chat window, too.

DR. BONNEY: You have two votes already.

DR. BELCHER: Julia, I can offer this up. If you guys have a specific way for folks to contact you, and I don't know that we can give you our contact list for our advisory panels, our in-state advisory panels, and we have a fish advisory, a shrimp advisory, and a blue crab, not that the blue crab would necessarily fall into it, but, at the same time, if you're looking for fishermen or ties through that way, we may be able to at least -- We have a meeting coming up that we could throw the information out to them, to see if it's something they could reach out to you about, if there's interest. That might be one way, at least within the state, and we could try to see if we could throw a net to try to get you an audience here.

MS. BYRD: Yes, and I think that would be great, and I understand that there are some confidentiality, or kind of sensitive issues with sharing contact information for folks, and so, if some folks have suggestions, and we don't have contact information for those individuals, we may be asking folks if they would be willing to kind of do some sort of introduction or kind of check with the person to see if they would be okay with us contacting them and that sort of thing, because I know different states have different rules, or I know there are lots of different rules about that, and we certainly don't want to make folks share information that they may not be comfortable sharing, but anything that we can do to try to help kind of identify who these folks are would be super helpful.

Like Carolyn mentioned, or if others have similar sorts of meetings or groups of people who you think may be good to be included in these interviews, or even as we implement the survey, we can definitely provide a paragraph of information, some information that you could hand to someone, or share with someone, to see if they may be interested, and, Rick, I hope I'm not speaking out of turn, but I'm guessing that's something that we could pretty easily pull together and share with folks.

DR. BONNEY: No, that sounds great, and one thing that we haven't decided is the level of confidentiality for these interviews, and I think they're going to work better if people are willing to go on the record with their comments, but we'll have to see whether that flies.

MS. BYRD: All right. I don't think I'm seeing any other hands raised, and so, again, if you're interested in us providing you with like a paragraph of information that you could send to someone, to see if they're interested, just let us know, and we can get that to you, and then perhaps in early January, after we kind of get through the holiday season, I may send another email out to you guys, just pinging you and reminding you that, if you have suggestions of folks who may be good to include, to let us know. Then I think -- Rick, from your point of view, do you think that's kind of it, as far as this agenda item, or are there other specific questions that you want to ask the group?

DR. BONNEY: No, and I am noticing the time, and I know that we're standing in the way of lunch. Of course, some people have probably started eating already, but, no, I think we're good here.

MS. BYRD: Okay, and Mel already said this, but, again, I just want to also say thank you to Rick Bonney and all the work that he's done with us, and we're really lucky to have him serve kind of as an advisor to our program, and that he's willing to continue working with us kind of moving forward is really -- He's really an incredible resource, and we have learned so much from him, and so we really appreciate all the time and effort he has kind of put into this program, because it certainly wouldn't be -- We wouldn't be where we are today without him, to say the least.

DR. BONNEY: Well, I will leave you with a funny little story. When I was an undergraduate at Cornell, my major was wildlife biology, and I took fisheries management in my senior year, but fisheries management had a real issue. It was a spring course, and it met at 8:00. Now, what does a bird watcher do at 8:00 in the morning in the spring? You go birdwatching, to see all of the warblers coming in, and so I had a really hard time keeping up with that class, and it wasn't one of my better efforts. After we got this article accepted in *Bioscience*, and I realized that, hey, I'm going to have my name on an article about fisheries management, and I thought, gee, I wish Professor Everhart was still around, to show him this. Thank you all for allowing me to redeem myself after all these years here.

MS. BYRD: Well, thank you so much, Rick, and so I know we have one more agenda item, and it is kind of a program update, and we really wanted to have Rick here for kind of these first two agenda items that we go through, and so we really appreciate everyone being flexible on time and letting us get through these after lunch. This last agenda item, Carolyn and Mel, we'll leave kind of up -- We can do whatever you guys would prefer, to continue on and get through the program update, or that could be pushed until after lunch or to Full Council, whatever kind of the pleasure of you guys.

MR. BELL: Let me jump in here, and so I'm trying to get signals from the third-base coach. Okay. Let's go -- Could we maybe do a quick program review? I'm okay going until 12:30, and could you do that in eleven minutes?

MS. BYRD: I can try my best. I was thinking it would take about twenty minutes, but I could try to --

MR. BELL: Okay. I don't want to rush you, and so let's do this. Let's go ahead and we'll break for lunch, but, before anybody goes anywhere, we have an important item that we need to cover, and I will let John sort of tee that up, if that's okay, Carolyn. I was just sort of jumping in here, and so if we could go ahead and just adjourn for lunch, from your perspective, and we'll pick up from --

DR. BELCHER: You're senior to me, and I'm good with that.

MR. BELL: We have one thing to do, and then, when we come back after lunch, we can give you the first twenty minutes, if that will work, Julia.

MS. BYRD: Yes, that's great. However you all want to do this, we can do that.

MR. BELL: Okay. Good. All right. Well, John, if you're there, and I'm not seeing you at third base, but just kind of help us transition. Here's the important item. As you know, earlier on, we said kind of a virtual farewell to Brian from the council staff who is retiring, but, as everybody knows, Brian is not the only person that this is his last South Atlantic Council meeting, and so, Roy, this really stinks, and I know we would much rather be with you in person and be able to celebrate with you and share a meal and a lot of laughs and a few drinks, but this is the best we can do right now to kind of send you off.

You all are probably all aware of this, but Roy's been around for a while. He became the Florida FWC designee to the council back in July of 2001, and so some of you all might have been in kindergarten then, and I don't know, but he made his first meeting in September of 2001. He has been the NMFS Southeast Regional Office Regional Administrator since January of 2003, and he still has his hair.

Here's something to think about, and you'll have to do the math on this, but, whenever I would talk to Roy at a meeting, it was like, well, he was either coming from another council meeting or going to another council meeting, because he serves on three different councils, and so the guy has probably got more frequent flier miles than anybody I could imagine, but, if you do the math, and I didn't, but say three councils, whether they meet quarterly or five times a year, times eighteen years, I don't know how many council meetings that is, but, Roy, god bless you for sticking with it, man.

That's a lot of meetings, a lot of travel, a lot of miles, and other things in Roy's past that you guys may be aware of is that he's an avid musician and a guitarist and a member of the Dead Ichs Rock Band, and there is Roy in his younger days, a little bit. You would see Roy at meetings with his guitar, bringing his guitar and checking in and checking out, but, you know, on a serious note, Roy has been around for a lot of major events and major changes and things going on.

I mean, he's been just an amazing asset to us as a council, from our own council, just getting things done, challenges such as implementation of ABCs and AMs and ACLs and ABCs, when all that came along, and dealing with ABC control rules, and Roy's absolute favorite issue, and, of course, it wasn't so much us, but I know that Roy loves red snapper, and red snapper is Roy's favorite fish, and I can remember when they were transferring kind of ownership of red snapper in the Gulf into federal waters off the states over to the states, and Roy was in a major signing them over thing, and I don't know if he kept the pens from that, but those pens would probably be worth something on eBay, if he wanted to sell those.

Other things about Roy is you all may know that he was once a flats fishing guide in the Florida Keys, and so he's been on the other side of the business that we do here on the being regulated side, and one of many in our field, and I can say this, and our region, who did their graduate work at VIMS, and I did my graduate work at Old Dominion, across the other side of the pond up there, but certainly you run into VIMS people everywhere, and that's part of Roy's background, and so, I mean, I can't say enough good things about him, and he's just been -- He's been so helpful in so many ways, and a great Regional Administrator and great member of the council team.

I can remember when we kind of started the fireside chats that we would do with the fishermen and all, and Roy would be sitting in one of the chairs there with the science person in the chair and all, and I miss those days, when we could be together and all do those sorts of things, and so, Roy, just, again, I hate that we can't do this face-to-face, but we do want to bring you back, whenever it's safe to bring you back, and actually give you a proper sendoff, and maybe that could happen in June in Florida, but, Roy, thanks so much for everything, and I wish you -- The Navy says fair winds and following seas, and that's something that, if anybody has tried steering in following seas, I have never appreciated that part of it, but the fair winds wherever you go, and best of luck in the future, man. That's all I've got. Thanks, Roy.

DR. CRABTREE: Well, thank you, Mel, and thanks for the kind words. I have been very fortunate to have a long and interesting career, and I have met a lot of great people over the last thirty years in this business, and I've made a lot of good friends, and that would be great, if you guys invite me back, and I would be happy to attend a meeting down the road, but I wish all of you well in the future, and I'm sure you will be still able to accomplish a lot of great things, and it's been a real pleasure, and so thank you.

MR. BELL: Thank you, Roy, and, again, I apologize for the format, but we didn't come up with this COVID thing, and so we'll catch up with you, but all the best.

DR. CRABTREE: All right. Sounds great.

MR. BELL: All right. John, is there anything else at this point that we need to cover, or just break for lunch and come back at 1:30?

MR. CARMICHAEL: Let's break for lunch, and we'll come back, and we'll be scrambling to get ready for that and get all the committee reports and everything out to you. There's a real press here to wrap it up.

MR. BELL: Okay. We could give Julia a little bit of time at the beginning of that to finish up, or Carolyn and Julia, and roll right into Full Council. All right. We'll see you all in a little bit.

(Whereupon, a recess was taken.)

DR. BELCHER: Welcome back, everybody. I hope that everybody had a nice, quiet lunch. Julia is going to provide us with the information relative to the final agenda item for citizen science, which is going over the program and projects update, and so, Julia.

MS. BYRD: Hi, everyone. First, just thank you guys for letting us kind of bleed over into lunch a little bit, to kind of give you an update on what's been happening in the Citizen Science Program, and so, for this update, we're really going to try to concentrate on highlighting things that have happened since your last council meeting in September when we were able to provide you with kind of the last update.

First, just going over some programmatic-level activities, as you guys are well aware, after our morning session, we've been working really hard on program evaluation, in particularly with our Citizen Science Operations Committee and with Rick Bonney and Jennifer Shirk, and so we really kind of appreciate you guys kind of adopting the vision, mission, goals, objectives, strategies, and indicators this morning and providing some kind of feedback and your willingness to help us recruit folks for this kind of program evaluation proposal that Rick Bonney will be kind of leading the charge on.

We've had two Citizen Science kind of advisory panel meetings since you all last met in September, and the Operations Committee met in October, working on evaluation-related things, and then our Projects Advisory Committee met in November, and just a reminder that this is a group that is made up of representatives from many of the other council advisory panels, and so the representatives for many of the kind of species-related APs, as well as Habitat and the Outreach and Communication APs, and this group hadn't met since last fall, and so we gave them kind of a

general kind of update on what's been going on in the program, similar to what we're giving you now, and then we also got their feedback on some of the citizen science outreach and engagement strategies that we've been employing over the past year.

The program is also really interested in working to initiate the development of a volunteer recognition program, and so we kind of got feedback from them on this kind of initial idea, which was extremely helpful, and we've had a couple of exciting things happen over the past few weeks, the first of which I will mention is, each year, NOAA puts together kind of a citizen science and crowdsourcing report that goes to Congress, and, in this report, they highlight some specific citizen science projects at NOAA, and, in the FY 2019/2020 report, one of the projects they highlighted was FISHstory.

They only highlighted fifteen projects total throughout all of NOAA, and so I think we were super excited to have FISHstory chosen to be highlighted, and so we write up information to be included in this congressional report, and, once it's available, we will share it with you guys.

Then the other kind of exciting piece of news that we got in the past few days Rick Bonney already shared with you, and it was that this *Bioscience* manuscript that we've been working on with Rick leading the charge was submitted with revisions, and we just found out that it was accepted for publication, and, as Rick noted, *Bioscience* has a really broad, large audience, and so I think this will be kind of a great way to share information about the development of our program and also to share some of the program framework and tools that we have developed, things in our SOPPs and kind of other project and program-related resources that could be of interest to folks who may want to develop a similar program, and so I think that will really help kind of broaden the audience that may be aware of kind of the work we're doing here in the South Atlantic.

Then we have also, on a programmatic level, really continued our outreach and engagement strategies, and so that is a lot of kind of the social media posts that we're doing, with the #citscifri hashtag every Friday, and we have started sending at least bimonthly citizen science updates, program updates, to our email distribution list, and then we also continue to provide an article in the council's quarterly newsletter.

Now I want to switch gears a little bit and talk about kind of projects that we have underway and projects and collaborations that we have under development. First, I want to talk about some projects and collaborations that we have under development. The first three are ones that you all have heard about before, and so I'll go through them rather quickly.

The first one, again, is this rare species observations, where we're working to develop kind of a mobile app, or a website, where folks on the water can submit rare species observations, and hopefully this information would serve as an early warning system for shifting species. We have submitted a couple of proposals, and we haven't gotten funding yet, but we're still on the lookout, to see other kind of funding opportunities that may be available for that project.

The second project is one where we're working -- We want to work with recreational divers, via the program REEF, to collect information, in particular length information, on some data-limited species, and we would pilot test this down in the Florida Keys, and we worked with REEF to submit a proposal to get some initial funding to get this project off the ground. We submitted it at

the end of November of this year, and so we will be waiting, and we should hear in early 2021, whether that project has gotten funding.

Then the last kind of collaboration that you all have heard about over the past few meetings is these kind of dolphin wahoo participatory workshops, and so Mandy Karnauskas and Matt McPherson are the ones who are leading these efforts, with the Southeast Fisheries Science Center, and they continue to do analysis of the information that was collected and that we learned from participants from the North Carolina and Virginia workshops. They actually gave a really wonderful presentation to the Dolphin Wahoo AP, at their fall meeting, sharing some of the work and some of their preliminary results.

We are still working to figure out when and how we can hold these kind of participatory meetings in south Florida and the Keys area, and so we're still trying to figure out kind of what we can do with the pandemic, and so, as we get more information on how we're going to handle this, we'll make sure to keep you guys in the loop, so you know what's going on with that project, but we still are very kind of interested, and I know Mandy and Matt are too, really interested in holding kind of in-person workshops in Florida, to kind of help finish out this work.

The next two collaborations that are under development are new, and they have come about over the past maybe month or so, and we're really in the early stages of these collaborations, but I wanted to go ahead and share some information with you guys on what was going on, and so the first new kind of collaboration that's under development is working with a program that's run by Jim Manning at the Northeast Fisheries Science Center called eMOLT, and it's the Environmental Monitoring of Lobster Pots and Large Trawls, and this is a citizen science program that's been around for decades, and it's been extremely successful.

It's really kind of a collaboration between academics and scientists and industry and kind of working together to collect environmental and oceanographic information, and so they are working with commercial fishermen to put probes on their gear, to collect information like bottom temperature and things like that, and so I believe the program initially started working with lobster fishermen and putting these probes on traps. It was expanded, I think, to large trawls, and I think they actually have some on longlines, longline gear, as well.

Jim Manning reached out to us in November, and he and some other folks he's working with were putting together a proposal, and they're really interested in expanding eMOLT down into the South Atlantic. We were super excited to hear that, and one of our citizen science research priorities is focused on collecting kind of environmental and oceanographic data, and so we were super excited that they were interested in expanding this really successful program down into the South Atlantic, and so they submitted a grant proposal to get some initial work funded, and we provided a letter of support, and we look forward to continuing discussions with them.

Then the last kind of collaboration under development that I wanted to mention to you guys is that we started talking with Wes Merton at the Dolphinfish Research Program, and I know you guys are very familiar with him and some of the work that they are doing.

MR. PUGLIESE: Julia, we lost your audio.

MR. BELL: I thought it was me. Okay.

MR. CARMICHAEL: I think everybody else is still here.

DR. BELCHER: I'm here.

DR. COLLIER: Well, she's continuing to work with Wes Merton on this topic, and it looks like she's coming right back.

MR. PUGLIESE: I sent her a text.

MS. BYRD: Hi, guys. My internet just went out for a hot minute. Sorry about that. I'm not sure where I have left off.

DR. COLLIER: You had just started talking about the partnership with Wes.

MS. BYRD: Okay. Great. Thanks, Chip. Again, sorry about that connectivity issue. We just started talking with Wes, to see if there are ways that we can work together to kind of expand some of the tagging efforts they're doing in the Atlantic. It seemed like he, and they, were interested in trying to get more tags out from like North Carolina north, and so we're seeing what we can do to help make that happen, and also trying to help connect him to some other folks at state agencies up that way who could be interested in kind of working with him on projects, and so those are two new projects that are kind of under development and in the real early stages right now.

Switching gears a little bit, now we're going to update you on some of the projects that we have going on right now, and the first one is the FISHstory project, and, as you guys are familiar, this is a project that's using kind of historic photos from the for-hire sector to get catch and length composition information from a time period kind of prior to when the traditional kind of catch monitoring programs were put in place.

It's kind of a project made of three components, and the digitizing of historic fishing photos was complete, thanks to Rusty Hudson, a number of months ago, but we continue to work on the for-hire catch composition and the method to estimate length composition now, and so, to give you guys a quick update on what's been going on in the for-hire catch composition component of the project, we have continued to have a lot of interest in the FISHstory project, which is on the Zooniverse crowdsourcing platform.

As of -- I looked at our numbers last night, and, as of last night, we had over 1,660 volunteers that have made over 28,380 classifications, and so, since launching in May, we've continued to have a lot of support and interest in this project, and we're really kind of working our way through getting folks to analyze, volunteers to analyze, so many of these wonderful historic photos that were provided by Rusty Hudson and the Hudson, Timmons, and Stone families.

We have continued work to kind of do some preliminary analysis of the live data collected through Zooniverse and have identified kind of the first batch of photos that we want our validation team to help verify species counts and numbers, and so Allie Iberle, right now, is actually in the process of scheduling a call to have with our validation team, to get them up and running, as far as validating photos goes.

For the length component of the project, as you guys know, we're trying to -- We've developed a method to kind of estimate the length of fish in these photos using the lumber in the leaderboards where the fish are hanging as a scale, and so we've developed a method, and it's being pilot tested on king mackerel, and measuring the fish within the photos is underway, and we're very lucky to have five analysts, Allie and myself, as well as a couple of folks from the headboat survey and from the MARMAP South Carolina DNR program who are helping us with this, and Chip has really taken the lead to develop this method to kind of -- This resampling method, so we can hopefully get length composition estimates from our analysis.

One thing that has happened since you all met in September is that kind of the methods that we developed were presented and reviewed by the SSC during their October 2020 meeting, and so, in general, they were very supportive of this work and thought that the length information generated through these photos and through this methodology could be very useful and helpful to assessments. They did provide a number of suggestions on ways to kind of improve the program that we are exploring now, and so we were really excited to get positive feedback and some really helpful suggestions for that group.

Then the other thing, I guess, that I want to mention here too, and probably should have mentioned before, is we've also had an opportunity to provide updates on what's been going on in the council program to many of the APs that have met over the fall, and I know Ira went over some of it, Ira and then Chris Burrows, and I think Jimmy Hull, earlier in the week, alluded to some of this, but it's really a great opportunity for us to let members of our APs know what's going on, but then they also provide us some really helpful feedback on what we're doing in the program and in individual projects, and so we're really thankful to have that opportunity and kind of interaction with folks on our APs, as we're kind of working on different projects and as we kind of grow the program.

The last thing that I wanted to mention for FISHstory is we have continued to get a lot of wonderful opportunities to kind of promote the project and have folks do features on the project, and so two kind of exciting ones, or I guess three kind of exciting things, that have happened recently are we did a guest blog post for *Discover Magazine* on the project. Cameron actually wrote a great article that was recently published in the December 2020 issue of *Seven Seas Media Magazine*, and then we also were highlighted in a book by Zooniverse, and so, each year, Zooniverse has started highlighting a number of projects that are active during that calendar year.

In 2020, they highlighted forty out of 150 projects, and FISHstory was one of the projects that was highlighted, and so we were super excited about this. We included, as Attachment 3b in your meeting materials, a PDF copy of this book, where you can see the FISHstory highlight on page 19, and then they're also offering kind of a hard copy book that you can purchase from their website.

Switching gears a little bit, I wanted to update you guys on what's happening with the SAFMC Scamp Release Project. Again, this is a project that is collecting information on scamp discards via a mobile app, and we continue working to recruit and retain fishermen in the project. As we noted, kind of in September, the data that have been collected through the app thus far were provided for review at the SEDAR 68 data workshop, and I believe that data workshop will be coming up in the upcoming weeks, and, in general, kind of the feedback we got back is that we have really kind of collected limited information thus far, but what we have collected, through the

app and through kind of talking to participants in the project, is that folks found the information was really helpful in interpreting trends and other datasets.

I think there is still a strong research need to have better data to characterize discards, and so I think, as this project grows, and as our sample size increases, I feel like we'll be able to provide some potentially really useful information.

The other thing that I wanted to update you guys on this project is we received this FY2020 proposal from ACCSP, and it kind of has two components. The first component is combining the Release app with North Carolina DMF's Catch U Later app under ACCSP. Expanding that app will allow us -- I guess that combining this app will allow us to expand the number of species we're collecting information on through SAFMC Release, and so the programming to combine those apps is underway now, and we are hoping that we will have kind of the updated version of the app that is under ACCSP's umbrella ready to go and launch in early to mid-spring of 2021.

The second component of this project is holding a series of scoping meetings to plan for the development of this customizable citizen science app that can be built on the fly, and so we have been meeting with a group, with an organizing committee, made up of representatives from folks in the South Atlantic as well as Mid-Atlantic and Northeast, to kind of plan for this series of scoping meetings.

The meetings are actually going to be held between February and April now of 2021, and we have recruited participants, and it was really exciting to see that there was so much interest in the development of this kind of customizable citizen science app. We have people who are interested in participating in the workshop from all along the Atlantic coast, state agency folks, federal agency folks, fishermen, NGOs, some consultants, and so there are a lot of people that are interested in the development of this kind of tool. We also have found out that we are going to get the FY2021 ACCSP funding, which will actually kind of implement and allow us to develop this customizable app that we're scoping this year.

The last thing that I wanted to update you guys on the SAFMC Release project is something that Rick Bonney had mentioned earlier, and we're working with a College of Charleston graduate student, Nick Smillie, and his research is really focused on trying to identify the best strategies to kind of market these self-reporting apps to fishermen, to try to increase participation, and I know some of his work was also referenced in the recreational fisheries webinar that you all had earlier this fall, and so his research kind of has two main components, one of which he is interviewing fishermen who have SAFMC Release accounts, to get their perceptions of the app and perceptions of kind of this self-reporting.

Then the second piece is he's building on some of the work done by the MyFishCount crew and doing some further analysis of the kind of MyFishCount surveys that were conducted in 2018 and 2020, and then he's also helping analyze some of the marketing strategies that BeBe employed and Kelsey employed that influence kind of account creation and trip reports within that app, and then he'll be looking for kind of common themes that come from those two methodologies and trying to put together some best practices that we can hopefully apply to our future work.

Then the last thing that I wanted to give you a quick update on is another project that we're collaborators on that's being led by the Nature Conservancy, and in particular Bob Crimian, and

it's a project that is focused on promoting Gray's Reef through engaging Georgia anglers, and so they want to increase awareness of fishing opportunities in Gray's Reef and promote best fishing practices, in particular descending devices, and promote kind of opportunities for fishermen to help contribute to data collection through citizen science.

Originally, this project was focused on holding in-person -- What we were calling fishing learning exchanges with fishermen, where they would come and we would have discussions, and then they could potentially get a descending device and weight, and so we held two meetings in March in Brunswick, Georgia, and then the pandemic hit, and so we've had to be very flexible, and Bob Crimian has done a great job of kind of refocusing the project, and so now the project is focused on developing kind of an online dynamic resource that will allow fishermen to kind of learn about fishing in Gray's Reef and about kind of the National Marine Sanctuary and kind of to learn more about best fishing practices and to learn about data collection opportunities through citizen science, and so we're in the process of helping developing some content for this now. This resource will live on the Gray's Reef National Marine Sanctuary webpage, and it will hopefully go live the first quarter of next year.

That's a quick update on what's been happening in the program, and a shoutout to Allie Iberle, who has helped with so many of the things that we just kind of walked through, but that is a quick update on what's been going on in the program, and, again, I appreciate your time and letting us run a little into the afternoon session, and so now I would be happy to take any questions that folks have.

DR. BELCHER: Thanks, Julia. Are there questions or comments from the group? Obviously you guys have been super busy, and there are some really good projects in that mix, for sure.

MS. BYRD: Thanks, Carolyn. Mel, go ahead.

MR. BELL: I was just going to say that it's an amazing amount of stuff that you guys have going on, and we really appreciate your hard work on all of this, and we're just looking forward to producing some really cool, useful things, but it's a fascinating mix of projects, and an awful lot of effort, and so thanks so much.

MS. BYRD: Thanks, Mel.

DR. BELCHER: Does anyone else have comments or questions for Julia?

MS. BYRD: I am not seeing any other hands raised, Carolyn.

DR. BELCHER: Okay. Well, again, thanks for everything, Julia, that you and Rick provided today, and congrats on the *Bioscience*. I know that's a pretty hefty feat, for sure, especially given those of us who are familiar with the impact factor. You know, most of us are in those journals where we're down around one, and you guys are up in the eight level, and so it's amazing what you're going to have for scope of audience in looking at that article, for sure. If everybody is good with moving forward, we'll go ahead and adjourn the Citizen Science Committee.

(Whereupon, the meeting adjourned on December 10, 2020.)

Certified By: _____ Date: _____

Transcribed By
Amanda Thomas
February 9, 2021

Attendee Report: **SAFMC December Council Meeting (12/07/20 - 12/10/20)**

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