

SOUTH ATLANTIC FISHERY MANAGEMENT COUNCIL

SOCIAL AND ECONOMIC PANEL

**Town & Country Inn
Charleston, South Carolina**

April 14-15, 2025

Socio-Economic Panel of the SSC

Dr. Jennifer Sweeney-Tookes, Chair
Jason Walsh, Vice Chair
Dr. Scott Crosson
Dr. Chelsey Crandall
Dr. John Whitehead

Dr. Kevin Hunt
Dr. Eugene Frimpong
Dr. Christina Package-Ward
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Dr. Judd Curtis
Christina Wiegand
Kelly Klasnick
Emily Ott
Myra Brouwer

John Hadley
Dr. Chip Collier
Julia Byrd
Meg Withers
Dr. Mike Schmidtke

Attendees and Invited Participants

Rick DeVictor
Dr. Kai Lorenzen

Dr. Walter Bubley

Observers and Participants

Other observers and participants attached.

The Social and Economic Panel of the South Atlantic Fishery Management Council convened at the Town & Country Inn in Charleston, South Carolina on April 14, 2025, and was called to order by Dr. Jennifer Sweeney-Tookes.

WELCOME AND INTRODUCTIONS

DR. SWEENEY-TOOKES: Good afternoon. This is the beginning of the Social and Economic Panel meeting on April 14, 2025, and we are in a room with a few of our members. It is not the same without our federal folks here in person. They are much missed, and I'm grateful that you all are willing to join us via webinar, even though you can't be here with us, and so I just want to start with that. I'm going to ask that we go around with introductions, and we'll start over here with Kevin.

DR. HUNT: Kevin Hunt, and I'm a human dimensions professor at Mississippi State University.

DR. FRIMPONG: Eugene Frimpong, economist, University of Georgia.

MR. WALSH: Jason Walsh, economist, North Carolina Division of Marine Fisheries and vice chair.

DR. SWEENEY-TOOKES: Jennifer Sweeney-Tookes. I'm the chair and an applied anthropologist at Georgia Southern University.

MS. WIEGAND: Christiana Wiegand, South Atlantic Council staff.

MR. HADLEY: John Hadley, South Atlantic Council staff.

DR. CRANDALL: Chelsey Crandall, social scientist, Florida Fish and Wildlife Conservation Commission.

DR. SWEENEY-TOOKES: We're going to start with the people online. Can we start with Christina, please.

MS. PACKAGE-WARD: I'm Christina Package-Ward, an anthropologist at the Southeast Regional Office of NMFS in St. Petersburg, Florida.

DR. SWEENEY-TOOKES: Adam.

MR. STEMLE: Hi, everyone. My name is Adam Stemle, and I am economist with the Southeast Regional Office as well. I miss seeing you guys in person.

DR. SWEENEY-TOOKES: Thanks, Adam. Scott.

DR. CROSSON: Scott Crossan, economist, Southeast Fisheries Science Center.

DR. SWEENEY-TOOKES: Thanks, Scott. John.

DR. WHITEHEAD: John Whitehead.

MR. HADLEY: We can hear you.

DR. WHITEHEAD: You can hear me. Great. Okay. I'm John Whitehead. I work in the Department of Economics at Appalachian State University.

DR. SWEENEY-TOOKES: Thanks, everyone. The next item on our agenda is to approve the agenda, and so I will leave space for anyone to add anything, or object to it. If you're online, please raise your hand, and being as I see no hands anywhere, we have approved the agenda. Our next order of business is to approve the October 2024 minutes. I assume everyone on the SEP has had the time to look at those. Are there any additions or edits that need to be made? Please raise your hand online if there are. Seeing no hands anywhere, we will move on to public comment.

MR. HADLEY: All right. Thank you, and so, with public comment, if there's anyone on the webinar that would like to make public comment, please raise your hand. There's a little hand icon on there. If it turns red, that means that it's raised, and so we'll pause for a moment to see if anyone wants to provide public comment. All right. Seeing no hands go up, I don't believe there is any public comment. Thank you.

RECENT AND DEVELOPING COUNCIL AMENDMENTS

DR. SWEENEY-TOOKES: Thanks, John. We'll go to Item 2 on our agenda, which is Recent and Developing Council Amendments. Just as a reminder for SEP members, I did email you a list of the agenda items, topics, the guiding questions that we are asked to address, and assigned to the note takers, and so, if you wouldn't mind taking a moment just to look at that, and I can resend it if needed. Eugene, you're up on this one, and I'll be filling in for Andrew Ropicki, and so I will turn this back over to John Hadley, to give us the overview of these recent and developing council amendments.

MR. HADLEY: All right. Thank you, and so I'm going to jump over to the agenda and overview document, and I have scrolled down to Agenda Item Number 2, Recent and Developing Council Amendments, and so just as a, you know, reminder for everyone, this is a time where we just going to go over a few of the council actions that have either been either underway or have recently been wrapped up, that may be of interest to the SEP, or may come up later on in the SEP's discussion, and so I'll kind of run down the list here.

We pulled -- There's an attachment with all the active amendment documents, the active amendment document that has some of the council actions in it, and I pulled a few out of that document of interest to the Social and Economic Panel.

Starting off, we've got the wreckfish ITQ program modernization. The SEP has weighed-in on that past. That was moved forward. That amendment was finalized, and it is currently under review, and it was submitted to the National Marine Fisheries Service at the end of the year last year.

Moving on down, in the snapper grouper fishery, there are several items that may be of interest, and may come up to the SEP perhaps later date, but, also, you will be speaking a little bit about the snapper grouper MSE, and so just something to keep in mind as sort of background information on that effort, but there's Amendment 46, and this looks at establishing a private recreational permit and education requirement, focusing specifically on the private angler or private vessel component of the snapper grouper fishery.

There is a permit, of course, for commercial fishery and the for-hire fishery. There's not one for the private recreational component of the fishery, and so the council has been working on this for quite some time. The council is expected to approve this for public hearings in June, and so, really, there's two main actions, and sort of one action, and then an action at the very end of this amendment, that brings everything together.

You know, one major component of the amendment is to create a permit. The other major component is to create an education requirement to go along with that permit, and then there is an action at the very end that sort of ties it all together, and, if states are willing to implement their own consistent program, that is consistent with the federal requirements, that that state would be exempt, and so it allows states to sort of take on that initiative to do so, and, that way, anglers or vessel owners in that state would not necessarily have a state and federal requirement. They would just have a single requirement.

Moving down, there is Snapper Grouper Amendment 46, black sea bass, this is something that the SSC is going to be speaking about later this week, and it's responding to the most recent stock assessment for black sea bass. It's not looking good for the species, and so there's likely going to be some level of reductions in catch to go along with this, and there certainly are some major social and economic components to this fishery in the Southeast, and so that's something that is at the very beginning right now, and, again, it's an item that's going to be discussed.

The stock assessment is going to be discussed in depth by the SSC, but it's just something to keep in mind, that, you know, we may have questions for you at the next meeting, and not necessarily for this meeting, but just good background information.

Moving on down, there is Snapper Grouper Amendment 44/Reef Fish Amendment 55, and that's going to look at yellowtail snapper, and potentially looking at I believe mutton snapper as well, but those two species have a single stock between the Gulf and South Atlantic, and so that single stock is sort of -- There's several different allocations there.

There's a jurisdictional allocation in the South Atlantic and Gulf, and then the councils -- The councils collectively are likely moving forward with implementing those catch level recommendations and their respective sector jurisdictional -- Or their respective jurisdictional allocations. There will likely be another amendment that comes down the pipe that looks at the fishery-specific measures in the South Atlantic, and so that's looking at more -- Out of the level recommendations, looking at sector ACLs, any sort of management changes, and those will be specific to the South Atlantic.

Then, finally, as I mentioned, there's the snapper grouper management strategy evaluation, and this has been an ongoing effort from the council, on the council's behalf, and it's coming towards the end or -- Well, towards the end, or at least a stopping point, where the council did receive

results of the snapper grouper management strategy evaluation, but work is continuing to be ongoing, and so there's additional research that's going into the MSE initiative, to potentially capture some of the human behavior components of the recreational snapper grouper fishery, and so kind of teeing that up for -- You'll hear more about that later on in the meeting.

Moving down a couple more, these are more comprehensive amendments that touch on the major finfish fisheries, and so dolphin wahoo, snapper grouper, and coastal migratory pelagics. There's the comprehensive recreational for-hire limited entry amendment. That, again -- It's across all the three main finfish FMPs, and that would consider limiting entry into the for-hire permits in that fishery, and that's at a very, very early stage. The council -- It has not been approved for scoping. The council has looked into it, but is waiting on updated permit information before deciding whether or not they want to move forward with that amendment.

Also, there's the comprehensive for-hire reporting improvement amendment, and the idea behind this amendment is to improve compliance with for-hire reporting requirements, and the SEP has weighed-in on this, and the council has certainly received your recommendations, and, you know, I think it was helpful for them in wrapping their heads around the prospect of improving compliance and sort of, you know, what that should look like, and so that amendment is moving forward. It has gone through scoping, and it will continue to move to -- It's going to undergo -- It's been approved for public hearings, and it will undergo public hearings, and the council will receive public hearing comments in June, and so, with that, I'll take a pause and answer any questions. Thank you.

CITIZEN SCIENCE PROGRAM UPDATE

DR. SWEENEY-TOOKES: Any questions for John? Any questions online? All right. It seems we have no questions. All right, being as there are no questions for John, and there's no need for us to respond to any questions, we will move on to the next agenda item. Moving on to Number 3, this is the Citizen Science Program Update, and we'll start with Julia Byrd. We are working on the technical side of PowerPoint issues.

MS. BYRD: All right. Good afternoon, everyone. So, for those of you who I haven't had an opportunity to meet, I'm Julia Byrd, and I am the Program Manager for the council's Citizen Science Program, and I work very closely with Meg Withers, over there, who is the Citizen Science Project Coordinator, and so we just wanted to give you an update on what's been happening in the Citizen Science Program since you all met I guess last -- Or summer was your last meeting, and I can't remember, but we'll be providing stuff that's been happening over the past few months, several months, and then hoping to get your input on a few questions as well.

What we're planning to do is I'm going to give you an update on a new kind of online tool that's available, and then update you guys on three of our projects that are underway right now, and so the first thing I wanted to share with you guys is we have a new tool available online called the Citizen Science Project Idea Portal, and so this is kind of an online form that lets any members of the public submit their citizen science project ideas to us.

It kind of became available last summer. Council staff have done a very soft kind of launch, helping kind of spread the word about this. We've done just a few social media posts, and have

included it in the council's newsletter, but one of the reasons we are interested in developing this tool is because we know that members of the public probably have great ideas about projects that may be great for our program to pursue, and so we wanted to provide an opportunity for folks who may not be in the council's network to share those ideas with us.

How we're planning to use those ideas is, kind of when they're submitted, we're planning to kind of use them to help us update our citizen science research priorities. Those priorities are updated every two years, and really guide the types of projects that our program pursues, and so it helps take all of the various kind of data needs and helps us kind of narrow the focus to tangible ideas that we want to focus on for the program.

We wanted to make sure that you all are aware that this tool is available. We'll be updating the citizen science research priorities later this fall, and so we're going to try to make a bigger effort to kind of push information out about the project idea portal later this year, so we can hopefully get some ideas in that can be considered for use this fall when we're updating our research priorities.

Next, I wanted to provide a quick update on our SMILE project, and so this is a project that's led by the Reef Environmental Education Foundation, and it works with recreational divers to collect length information on some of our data-limited species, and so the project is kind of using an underwater Olympus camera, that's mounted with a laser, where divers will go out, get the laser on a fish, and take a burst of photos.

This is a pilot project. They've wrapped up kind of their second field season. The field work is primarily being done in the Florida Keys, with a few kind of opportunistic dives, as well as the REEF program is diving in other places, and one of the things they're doing is not only developing kind of the camera technology, with the laser, and kind of the methodology for divers to use, but they're also developing kind of an AI workflow to help analyze the photos afterwards, so that they're going to be able to get this length data from the burst of photos more quickly into the future.

Another piece of the project that I thought may be of interest to you all is they're, and I think it just launched, conducting a survey with kind of REEF users and people who have participated in the SMILE pilot project, to try to better understand kind of who is participating in the projects, what their motivations are, what their barriers to participation are, to help kind of inform the development of the program moving forward, and a shoutout to Chelsea and Mai, who is one of her colleagues, who have worked with the REEF team to help kind of develop the survey that they're using. This project kind of data analysis is underway, and some of the REEF folks will actually be presenting to the SSC tomorrow on some of their kind of methodology that they're using with the divers.

Next is our FISHstory project, and I know I have provided a lot of information on this project to you guys over the years, but this is a project that's using old historic fishing photos to better understand kind of historic kind of catches and length compositions from the South Atlantic region, and so I just wanted to provide a quick update.

One of the things we have been pushing on really hard over the past kind of year to eighteen months is kind of growing our FISHstory archive, and so I'm excited to say that now we have -- Actually, now it's closer to kind of 2,500 photos that have been contributed to the fishery by --It

should be, I guess, sixteen or seventeen photo providers now, and so the majority of our photos are still from the area off of northern Florida, kind of Daytona, Ponce Beach, Ponce Inlet, but now we have photos from the Keys all the way up to the Outer Banks, and so we're really excited to be growing that archive, and, if you look at the photo archive, you can see the percent of photos by decade, and so lots from the 1960s, and then that followed by the 1950s, 1970s, and 1980s, and we have kind of more information, and getting -- Kind of growing our archive in those areas.

One thing I will say is, as we're working to grow the archive, Rusty Hudson, who is the fisherman who provided photos for our pilot, really provided kind of the gold standard of photos. He knew kind of the month and day of almost all the photos he submitted, which is incredible, and, as we've been working to gather more photos, we're getting more photos submitted where folks have kind of a ballpark of years, and it was in the 1980s, or it was from 1980 to 1985, based on the captain or mate that's in that photo, that sort of thing, and so that's one thing that we've noticed as we've been growing the archive, is not everyone has that kind of exact dates on the photos that are being submitted to the project, but they're still very useful.

Again, we have photos covering kind of every month of the year. The majority of photos that we've kind of received through the project are from April to August, which likely mimics kind of the for-hire fleet, which is kind of the fleet that we have the most submitted from.

I will say that we've had a ton of photos submitted. Not all photos can be used for analysis in FISHstory. We're still archiving those photos. I think it does a good job kind of showing kind of the historical significance of the fisheries in these areas, but, to be used for analyses, the photos need to be taken up in the trip, where the displayed harvested catch is with kind of the anglers who caught that catch. We need at least a ballpark year. We need to know the state that the photo was taken in, and then we need kind of contact information for the photo provider.

Then what makes a photo even better is if the fish are hanging on that lumber leader board, and that allows us to estimate the fish length, and then, the more specific date and location information, the more specific kind of analysis we can do, but we've been really excited to be able to kind of be growing our archive slowly but surely for that project, and I know some of you provided wonderful suggestions on how to help us do that.

The second part of the FISHstory project is, once we get photos in, we upload them to Zooniverse, which is an online crowdsourcing platform that helps us train members of the public to help us identify and count fish within the photos, and so we did our pilot project. We worked really hard to gather a lot of new photos, and then we relaunched the project in Zooniverse in July of last year.

We kind of simplified some of the data collection that we are asking volunteers to help us with, through kind of lessons learned through the pilot, to hopefully kind of improve our data quality, and so we're excited that we've had great participation so far. If you look at this slide, we have kind of four different levels that folks are kind of collecting information or classifying photos in the project.

The first level is kind of the easiest level, where people are just counting fish in photos, and then, as you move up, we're asking people to kind of identify and count specific fish species, and so I looked, and, as of this morning, we're now at 99 percent complete of this last Level 4 workflow, and so getting very close to completion. What will happen next is we have partners at NC State

that are helping us analyze these data. When there's a lot of volunteer disagreement about what's in a photo, we'll work with the validation team to confirm what's in that photo, and then they'll be doing kind of further analysis there.

Then the last component of the project is kind of developing length compositions for some of the key species from these photos, and so, in the pilot, we originally focused on king mackerel, and, since then, we've been measuring red snapper in all of the photos we have in our archive, and so we're excited that we've measured all the red snapper that we can in the photos that we have currently archived, and folks at NC State are leading analyses to develop length composition information that will be shared as part of the upcoming SEDAR 90 data workshop that's coming up in a couple of weeks.

Then the last project I wanted to provide a quick update on is the SAFMC Release project, and so, again, this is the project that's working with fishermen to collect information on released shallow-water grouper and red snapper, using a free app called SciFish, and Meg is really the one who does the heavy lifting for this project, and so I'll be sharing a lot of kind of the hard work that she's been doing over the past several months.

To update you on what's going on, we have participants who are still kind of recording information within the SciFish app on their released snapper grouper species, and we've also been really heavy on doing a lot of outreach at the beginning of 2025. There were kind of fishing expos that we went to, and we've gone to -- We've been to kind of some seminar series. Meg and I did a virtual seminar last week with captains in the Little River area, and we'll be doing another seminar in another couple of weeks, and so we have been focused on doing a lot of outreach. As kind of there's been more fiscal uncertainty recently, trying to think more about creative ways that we can do outreach, based on kind of the reality that we're working in right now.

Each year, we put together -- We, Meg, puts together an annual data summary, and so the 2024 data summary first gets shared with the participants, so they can check it out and kind of ask questions, provide feedback, and then it gets posted to the website, so it's more broadly available, and so I'll be sharing a little information on kind of what we've learned through kind of our participants from 2024 in a few minutes, and then we're excited to also share information on a new Sea Grant partnership that's underway for the first time this year.

Within the data summary, there's lots of great information. It includes information on kind of Release submissions by state or fishing sector, information on the species that are submitted. We have length compositions for some key species, looking at release treatment by depth, shark depredation, and then we also have a participant recognition program, as part of SAFMC Release, that's really focused on kind of celebrating the achievements of folks within the program.

Each year, there are specific milestones, and, when folks reach those milestones, they get recognized, and so, just to dig a little bit into the 2024 data summary, if you want to see where our submissions came from, the majority were from South Carolina, followed by Florida, then North Carolina and Georgia.

The large majority of submissions are from the recreational sector, and so just around 80 percent of submissions were from the private rec sector, with 20 percent from charter fishermen, charter captains, and, if you look at what species are being submitted, what are being submitted in the

project, over 64 percent are red snapper, followed by gag, then red grouper, as well as graysby and scamp.

Then one of the things we were kind of most interested in learning about from our participants were learning more about kind of when they were treating fish before fish got released, and so you guys are very familiar, but, as fish get pulled up from depth, a lot of times they can suffer from barotrauma, and so pressure-related injury, and so, if fish are released without being treated, a lot of times, they'll put on top of the water, and it can impact survivorship of that fish, and so we were interested in learning more about when people were venting or descending fish, to better understand how often those kind of treatments were being used.

One of the cool things you can see in this photo is that, as folks are fishing in deeper depths, they're more likely to kind of vent or descend fish, which is great, because the frequency of barotrauma increases as you kind of increase depth as well, and then, just to give a little bit of a shoutout for some of our kind of folks who reached our participant recognition milestones, we always give recognition for the folks who submitted information on the largest and smallest released fish in each of our kind of eleven species under the project.

We have an Around the Reef milestone for the person who submits information on all of the species within the Release project. Jake Harmon is leading the charge on that. He submitted information on four different species, and then we have a Release champion every year, and our release champion in 2024 was Mark McWaters, who's a private rec fisherman out of the Jacksonville.

Thanks to a partnership with Sea Grant, and they have kind of adopted some of our milestones, and so, when participants reach Sea Grant milestones, Sea Grant is able to share kind of a thank you packet with them, kind of recognizing their achievements.

This year, the last thing I wanted to update you guys on, as far as kind of Release goes, is we're really excited to be partnering with Sea Grant on kind of a new initiative, the Sea Grant Release Rodeo, and so Sea Grant -- We've been working really closely with kind of the Reef Fish Fellow, Greyson Webb, on best fishing practices and outreach on our SAFMC Release project, and one of the things Sea Grant was really interested in was trying to get best fishing practices gear in fishermen's hands.

SAFMC Release does a lot of outreach work with Greyson, and we really want to kind of increase and encourage folks to participate in the Release project, but we're also wanting to get more entries that can be used for data validation, and so it's optional within the project. You can submit a photo of your released fish, and so, if we get a photo, that can help us do species validation, and then, if we get a photo of a fish on a ruler, or something of known measure, that can help us kind of validate the length information submitted within the project.

Greyson had this great idea to do kind of a release rodeo with our kind of SAFMC Release project this year, and so kind of how the rodeo works is it starts May 1, and it will run through July 31, and so people can earn raffle tickets for a Sea Grant raffle, by submitting entries that can be used for data validation, and so if you -- You can submit up to kind of -- You can get raffle tickets for up to four submissions a month, as long as your submission has a photo, and you can double your entries if your submission has a photo on a ruler, where we're able to do length verification.

Then, at the end of each month, Sea Grant will draw the name of two winners, who will win some best fishing practices gear, and then, at the end of the rodeo, at the end of July, Sea Grant will draw one grand prize winner to win some prizes that have been donated to Sea Grant through some of our great partners and collaborators, and so that's like a new initiative this year. We're super excited about it. It's kind of hot off the press. We're just starting to tell people about it, and so Greyson and Meg are really just starting to spread the word throughout our kind of community and network of folks about the Release program.

the last thing we wanted to chat with you guys about, and hopefully get some input on, is kind of how we can better track kind of the relationship building that's going on. In this context, we're talking kind of specifically about the Release project, but I think it's much broader than that. I think kind of relationship building is something we're really trying to do in the Citizen Science Program as a whole, and then, also -- Christina will be talking about this more tomorrow, but we're really trying to kind of figure out ways to track that sort of thing within kind of the council's broader outreach initiatives too, and so, you know, I think we're really starting to see --

We've been really lucky, where we've been able to have Meg and Ashley and Greyson, and really wonderful people who have been able to go out more into fishing communities to share information on best fishing practices and Release and our citizen science projects, that sort of thing, and I think we're really starting to see kind of relationships forming.

We're getting asked to go back to fishing clubs for more seminars. People are asking us to send them our information materials when they're doing kind of a seminar, or a presentation, or going to a fishing expo. Tomorrow, Christina will show you kind of -- We call it the spider web, but it's kind of a way we've tried to visualize how we've been able to make connections with more people and how they've spread to help us make connections with even more people within the fishing community.

You know, we're trying to figure out ways that we can kind of quantify, or better show, these relationships being formed. I think these relationships is a part of, I think, the success that we want to share that's going on with the outreach that we're doing, and with kind of the Citizen Science Program, and so a couple of questions for you guys.

We wanted to ask kind of what modes of contact -- Like how do we best track this relationship building? What modes of contact should we -- Would be most beneficial for us to track? What details would be useful for us in trying to illustrate how these relationships are building and growing, knowing that we are a small but mighty team, and so we want to spend time to be able to track this relationship building, but we also only have so much time and capacity to do that, and so we wanted to chat with you guys and get your input on some things that we may be able to do to help demonstrate kind of this relationship building over time. With that, I'm happy to take any questions on any of the information that I just presented, and then I'm really interested in getting your feedback on this kind of how we can best track relationship building.

DR. SWEENEY-TOOKES: Thank you, Julia. Good updates all around. Questions for Julia about anything we've heard today, before we jump into these questions for us? Jason.

MR. WALSH: Thank you. Great presentation. I was curious on the app that folks can submit their citizen science project ideas, and how much participation has there been, or how many downloads have there been, for do you have any metrics on that?

MS. BYRD: So I want to make sure -- You're asking about the project idea portal?

MR. WALSH: Sorry. Yes.

MS. BYRD: Okay. So, right now, we've had only a couple of submissions, and they've both been on shark deprecation, and so I think some of that -- Some of the lack of submissions is probably due to us doing a soft rollout of the tool, and we're trying to figure out a way -- We want to make sure -- So, when people submit an idea, and we review ideas twice a year, in May and October, and we want to make sure that we're able to respond to people who submit ideas, so they know that we've received them, and, you know, we can provide more information.

If their idea isn't under one of our research priorities, we'll say, you know, we'll include that information when we're updating our research priorities, or, in the case of shark deprecation, there happened to be another project, kind citizen-science focused, going on shark deprecation, and so I can say, hey, there's some of this other work going on, and so we're trying to make sure we balance spreading the word about this in a way where we'll be able to do the workload and be able to follow back up with people, and so I guess that's not an answer to your question. Your question is very - - We've had only a couple submissions. They've been on shark deprecation. As we try to scale this up, we're trying to do it in a way where we can kind of make sure we have the capacity to respond to people, but also make it worthwhile for them to kind of submit ideas.

DR. SWEENEY-TOOKES: Scott.

DR. CROSSON: Very nice presentation. I was curious about the SAFMC Release, that you finished your presentation with, and you broke it down by different geographical areas, and some of these other factors, and I'm curious what the overall population of users is. Do you have a small group that uses it a lot, or do you have a pretty large population of people that are out there using it every day? Do most people that install it end up using it? What kind of information can you give us on that?

DR. CROSSON: Thanks for those questions, Scott, and so I'll say we have hundreds of people who have signed up and have accounts, and a much smaller group of people are kind of actively submitting data. I don't have those numbers off the top of my head, but it's relatively small, and what we have seen is, you know, each year, there are some super users, people who are logging a lot of information, and sometimes they'll -- You know, there have been people who've been logging since, you know, the beginning, or near the beginning, of the project.

There's some people who are super loggers who will fall away from the project, and others who come in, and so I think attrition is something that happens with, I think, probably any citizen science project, but it's something we've certainly seen, and I think our experience hasn't been build it and they will come.

I think we get the most people who are logging the most within the project are people who we've built relationships with, and so, you know, I think it often takes multiple interactions with someone

to get them to get an account, maybe log something in the account, and so it's kind of you're pushing the snowball uphill, so to speak, but hopefully that helps at least address your question a little bit, Scott.

MR. CROSSON: Yes, and, I mean, it's not unexpected. That's kind of the case, I think, with most systems like this, and so I was just I was just curious as to whether how many people are really actively out there using it regularly. I'm not surprised to find out that there's a relatively small subset that uses it constantly, and then there's a larger population that's using it less.

MS. BYRD: Yes, and I will -- So we have, over the past year, in 2024, through some in-person outreach that -- Well, I guess some in-person outreach and some kind of people hearing about the project in other ways, a couple of super users from South Carolina this year, and I think Meg may be able to speak to some of this a little bit more than I can, and so, Meg, feel free to come to the table if you want.

I would say, you know, one of the things that we that we hear from people who are participating, that is kind of motivating them, is the idea of them sharing what they're seeing on the water, and what they're seeing on the water doesn't seem to be matching what's happening in management all of the time, and so people seem to -- At least some of our super users seem to be motivated by being able to share what they're seeing kind of with us, and so I think that probably motivates a lot of our kind of super-user-ish type participants, and I think we're learning more, or I guess we're learning all the time about what seems to motivate some people and what seems to be motivation -- What may motivate one person may not motivate another person.

What may be a barrier to one person may not be a barrier to another person, and so I think we're learning along the way what's working. I think we're excited to see what the Release rodeo -- Kind of how that may motivate some people who may not be just driven by data, but may be driven by other things, to see if we get -- How that impacts kind of participation and that sort of thing, and so did that answer your question, and, Meg, do you have stuff to add?

MS. WITHERS: Julia, you did a great job answering that. I think the one other thing I would add to -- Kind of I think what we have found in terms of -- Also, this is Meg Withers, for anyone online.

DR. SWEENEY-TOOKES: She got there eventually. It took her thirty seconds.

MS. WITHERS: Greyson has had some conversations with some of our awesome Release participants, and they've kind of conveyed to her that the relationship building has been really key to their continued participation, and so having good, positive, kind of maybe constructive communication with our participants on a regular basis, and building that relationship, is helpful to making sure that it's a good experience for them, but great job, Julia.

DR. SWEENEY-TOOKES: Kevin.

DR. HUNT: Kevin Hunt, Mississippi State. Julia, and/or Meg, on the citizen science project idea, great -- I mean, I think that's great, , but, coming from some place where intellectual property is increasingly scrutinized, and is everybody getting credit for any particular idea in a dissertation, how do you -- If you take one of these, and it's a great idea, and we're going to push forward with

it, how can you maintain contact with that individual, and no personal information, and are you going to give that person credit?

If you use -- If you start a citizen science program, are they going to be informed? Are they going to have a name on a website? Are they going to be credited with the idea, or do they -- Are they told upfront, you know, you're ceding all intellectual property to, you know, the South Atlantic when you submit something?

MS. BYRD: So, when someone submits an idea, they're submitting their kind of name and contact information to the portal too, and so, at the top of the portal, we say we're going to kind of share - - This would be kind of an issue once we scale up. Right now, we've only had two ideas kind of submitted, but that we would share information on the types of ideas that were submitted, and so it's on shark depredation, and maybe not the specific details would be available kind of on our website, or that sort of thing, and so, you know, we do say that that information will be shared, and maybe not the kind of level of detail that people may provide.

In my mind, this is helping us think of new ideas, and hopefully finding new partners to collaborate to do those ideas, and so, if someone submits an idea, that doesn't mean we're doing it. That means, okay, a lot of people are interested in us collecting information on this topic, okay, and so how do we build a project, and so you have to get funding, you have to get a team together, that sort of thing, and so, I mean -- This hasn't happened yet, but how kind of I envision this going is, if there are fishermen that are interested in an idea, and there are scientists who may submit an idea, my job would be to match them together and help them -- Kind of foster them developing a project and trying to find funding and that sort of thing.

I think that's the best way I can answer your question right now, and, if there are concerns about kind of that sort of thing, and I know the idea of intellectual property may prohibit some people to want to submit ideas to our portal, which is okay too, but I think that's the best way I can answer your question right now.

DR. SWEENEY-TOOKES: Jason.

MR. WALSH: It's Jason, and I have another question. This one is about the FISHstory initiative, which I think is awesome, but I think I brought this up last time we spoke about it, and I have a question, or a concern maybe, that there's upward bias in both size and catch, just because folks are more likely to take the picture initially when there's larger catch, and larger fish, and then also keep the picture through time with larger fish, and larger catches, and I was just wondering if that's something that you've thought about, or that's been discussed further. I know you answered that question last time, kind of in a different way, but I just wanted to ask it again. Thanks.

MS. BYRD: Yes, and so we are trying to use photos for the analysis where people kind of lay out everything that was caught on that trip, and so some people have provided photos of like one person with a huge fish, and so we -- Where we are now, those sorts of photos aren't getting used as much in the analysis. We're really trying to make sure the ones used in the analysis are showing everything that was caught over time, to try to address that a little bit.

I will say what people might want to keep over time might change, and then, once you start getting into the, you know, 1970s, 1980s, 1990s, there are going to be regulatory kind of impacts too on

what people can keep. I know, in a lot of the older photos that we're looking at, it seems like people were keeping just about everything, the wheelbarrows of fish, trash cans of fish, lots of different species of fish, but, I mean, I think those are good points, and points to think about when kind of the analysis is getting underway.

We're also trying to -- So a lot of our data are from for-hire fisheries, a lot from headboats, and so we're trying to get it so we have some overlapping photos when the headboat logbook survey was also going on, so we can kind of compare what's from the photos with what was in the logbook, to see how kind of those jibe with one another, and so, I mean, I think those are really good points. They're things that we've kind of talked about. We have some ideas of how we can try to at least account, or kind of limit, the impact of some of those biases, but I think those are things that we'll have to kind of continue to think about as a project moves forward.

DR. SWEENEY-TOOKES: So we have two questions, if there are no other questions for Julia online or in the room, which I'm not seeing any virtual or in-person hands. We have two questions presented to us, and, Julia, I wanted to ask you if you wouldn't mind just elaborating on the first one. It says what modes of contact do you think would be most beneficial to track, and I wasn't clear on that you were thinking.

MS. BYRD: So we, and Meg does a lot of this, have individual emails with people, or phone calls with people, or we go to a fishing club and talk to a person, and then maybe they follow-up with a question, or like there's lots -- Or we go to an expo and meet someone, and then run into them again, and, you know, it's like there are all these different things that we're doing, and we are trying to figure out what are the most important things for us to track, because we can't track everything.

Like, you know, sometimes we'll be going to a booth, kind of an event where we're tabling a booth, and we know how many kind of information stickers and rack cards that we have, and so you know how many you start with, and you know how many you end up with, and is that helpful? You know, it seems like there's so many different things that we can track, and we're just trying to zero-in on the ones -- We're trying to zero-in on which ones maybe was meaningful for us to track. Did that help the --

DR. SWEENEY-TOOKES: It did, because I was thinking of it as what sorts of interactions did you think it was important to record, and in what way, but I think what you're actually saying is which things do we need to quantify?

MS. BYRD: Well, I guess either way is -- You know, I mean, I think part of what I probably didn't -- What I didn't communicate well is we have all these different ways we're interacting with people, and like what's the -- Like what do we need to be tracking? What do we need to be doing? We have all of this kind of anecdotal information, that we're gathering all the time, through all of the kind of outreach and things that we're doing, and we can feel, and kind of just knowing that --

You know, we feel like we're building these relationships, and we're hearing from the same people, and providing them information, or maybe some folks that we have talked to are now giving a public comment at a council meeting, and, you know, like so we can feel these relationships building. We're just trying to figure out how we can best track that and then communicate to others that these were -- Document to others that these relationships are building over time. Does that help?

DR. SWEENEY-TOOKES: That helped a lot. Now what ideas do we have for Julia? Jason.

MR. WALSH: This is Jason, and I guess I have a question. You guys are located in South Carolina, correct? Okay, and so that has the highest submissions, and so I imagine that is probably also where you go to the most groups, and have booths, and --

MS. BYRD: That's fair.

MR. WALSH: Okay, and so it sounded like you were getting feedback from people that were saying that we really like those personal engagement, or, you know, face-to-face interactions, and so maybe it's -- Obviously, you both can't go to Georgia and North Carolina and Florida all the time, and is there -- Are there ways that you can partner with people in those other states to get in front of fishers more, maybe?

MS. BYRD: Yes, and I think there are ways. I think the fiscal uncertainty is going to be driving a lot of what we do, and I think one thing I didn't mention, or we didn't show, is one of the things, when people sign up for Release, we ask them how they heard about the project, and, if you look at like -- If you break that down into categories, you know, in-person contact is very important for people who like have signed up for Release, and so I think, you know, making -- We've been growing relationships with some fishing clubs in different states.

I know Meg has been up to North Carolina with Greyson to a couple different fishing clubs, and she's already been invited back to one, and someone from one of the fishing clubs heard she was going to be at the other fishing club, and they came to that, you know, and like so I think it's a matter of building relationships enough so people feel like they want to be an ambassador for the project, or that sort of thing, and then, also, I will say we've worked with state agency folks, who have been wonderful, to help spread the word, and then also the Sea Grant folks in different regions. I think we're trying to leverage the relationships we have, but, still, it's that kind of in-person contact that's driving a lot of, I think, folks being interested in participating, or participating over time.

DR. SWEENEY-TOOKES: Kevin.

DR. HUNT: Just an idea on relationship building and tracking. Like, on your citizen science project idea, you've got a QR code. You can put data into that QR code that says I sent this to Chelsey Crandall in Florida, and, if somebody searches that QR -- Uses that QR code, it is attached to your contact with Chelsey, and so I think you can modify this QR codes to, when somebody logs in, you know where it came from, and who delivered that to, through your outreach, which may help you track who is using this stuff, who is delivering it, and is Chelsey doing a good job of getting this out, things like that.

I don't think you have to have a static QR code that anybody can use. You can put a tag at the end of it that says this went to so-and-so, and so that may help you develop at least where are your relationships being built, and, you know, who are your active participants, who are your go-betweens between yourself and the public.

MS. BYRD: I will say, again, Ashley and Meg have been doing this more than I have, but we have finally gotten kind of dynamic QR codes, where we're able to track on the backend, and so, after we go to an event where we table, and we have something with that dynamic QR code, we can see how many times it's, you know, looked at, and where the people are looking at it from, and that sort of thing, but I don't -- At least I hadn't thought about trying to tie it to an individual that we're sharing information with before, and so that's kind of a new idea that I hadn't thought of, or didn't know about.

DR. HUNT: Well, one of the reasons like -- You know, we have this issue with Extension, and they put pamphlets everywhere. Well, if you have no idea how many you put out, or where you put out the pamphlets, you can't evaluate the quality of that outreach, because you have no idea how many people got it, how many people responded to it, or where they got it, unless you queue them, like you were talking about. This could be a way to kind of help you track, you know, your communications and, you know, not have to go through that hassle of like where did you get this from, you know, which is probably the hardest thing to track.

DR. SWEENEY-TOOKES: This is really interesting, but can I just add, in the interest of building trust and build relationships, you'll want to make sure that -- Sorry, Chelsey, and I'm going to use you as an example, but, when you send a QR code to Chelsey for distribution, that you tell that person that, hey, by the way, when you share this QR code, it will be obvious that it's come through you, just an interest of building trust. Chelsey.

DR. CRANDALL: That's a fair point. That is super cool though. I think I'm getting a little lost in the weeds of trying to think about how to best help here, and thinking through like, what we mean by relationships and support and all of that, which we know is really complex, and I think, shy of developing some real in-depth evaluation, we won't really get engagement relationships, right, and we'll get maybe a proxy of they are contributing data, or they're participating, and it sounds like that's sort of the outcome we're measuring.

Correct me if I'm wrong there, but, if that's the case, it sounds like you all are doing a lot of collecting who it is that's participating, how those numbers are changing over time, and it sounds like we could look at some correlations between how many outreach activities we do in a certain area and how many people sign up for the different programs. That might help us get at that, and this tracking of the QR codes, when it goes out, how many people engage with it, and that might help us there. Would that get kind of what we're looking for here, like as we do these things, do we see that end game of people are signing up and they're participating?

MS. BYRD: Yes, and I think that's kind of getting at what we're trying to do, and then, also, at least when I'm thinking about this, and, Meg, come on up to the table if you want to add anything, but I will say, you know, things that help us -- When I think about this, it's -- All of this is kind of meaningful, but, when someone is going to do a presentation, and they reach out to us and say, hey, can we have some of those materials, that seems important.

When we go to a fishing club and then they immediately ask, hey, I'm going to send you the schedule for next year, so you can pick a date to come back, and it's like some interactions may be more important for us to track, because they may be more --

DR. SWEENEY-TOOKES: Fruitful.

MS. BYRD: Yes, and show that the relationship is building more than like we got more people signed up from doing this event, or that sort of thing, and does that make sense?

DR. SWEENEY-TOOKES: I have some thoughts for you. I came to anthropology via several years as a receptionist for an animal hospital, where we would have to log every interaction that we had with every client, and so I carried a lot of that into my work in social science, and so, over the past twenty years that I've been doing this, I've had a series of different -- You know, you tweak it, you modify it, you improve it every year, but spreadsheets, where I record somebody's name, where I met them, what project it was part of, what the date was, and did we do an oral history, or interview, or a this or a that, and this lives only in my own computer, unless it's something that's public, because, of course, you know, confidentiality, but that has helped me so much over the years, to go, wait a minute, this name rings a bell, or this fishing club rings a bell, and to be able to go back to my own spreadsheet and go, oh, right, I interacted with them eight years ago, in this capacity.

Then starting to see when you get to the point where you're interacting a lot with these folks, and what sort of interactions you've had, and what's been beneficial, what you think got you there, and I think, you know, in the long run for you all, I think this would be fruitful for doing like social network analysis too, because you could be recording how you learned of these people, and who put you on to these people, and snowball sampling and such, but you might want to think about a spreadsheet of some kind, or now I'm lazy, and I made myself a Google form, and so I just go in and enter it in the Google form, or, if names start ringing a bell, I just go into that spreadsheet and go times-two, or times-three, but that helps me keep people straight and then look at what's been effective. Adam.

MR. STEMLE: Thank you, and so, yes, and I was just going to say, following what Jennifer said, tracking and quantifying the impacts of all the outreach engagements that you do is difficult, but I will say some good resources to look through would be to contact some of our Sea Grant colleagues, because they do this on an annual basis for their programs, and so what metrics they use to quantify and track, to show the impacts of their program, might be something good for the council to also look at as well.

The second thing I wanted to get towards was more towards, I guess, monitoring or tracking the relationship building, with respect to the app, and so I was thinking the same thing, along the lines of, when you go and do an outreach event, is it possible in the CitSci app to see the number of new users that were created around the date of that outreach event, and then, following that, is the app able to do something like push notifications?

Can you -- Do you have the ability to send out push notifications to your user base saying -- You know, asking for a data call or just, you know, advertising for, you know, hey, we haven't seen you in two weeks, and, you know, have you done a recent fishing trip, and would you like to, you know, upload a recent photo?

Can you track those engagements with a push notification and then to see if the user base, the active user base, versus, you know, the total user base changes at all, and so those might be some interesting metrics that you could show to see how your outreach events are working in conjunction with the app's functions, essentially. Thanks.

MS. BYRD: One thing -- Thank you, Adam, for that kind of helpful feedback. Right now, when people kind of -- We're trying to send people -- We have an online form that people kind of fill out to create an online account, and then will, Meg and I, and mainly Meg, will be the one creating the account and then reaching out to that kind of individual, saying here's your login information, and here your links to download the app, and here's some kind of training materials, for you to kind of get started. Right now, we're tracking that more through signups through our online form, but I think that's a great idea.

Moving forward, I will say SciFish is an app that can house multiple projects, and so, as more projects come under that SciFish umbrella, that may be more challenging, to figure out who's coming to the app for your project, versus another project, unless they specifically sign up for a project.

SciFish right now doesn't have push notifications yet, but you -- There have been a couple other people that have made that recommendation too, and so maybe something -- The SciFish app is run by ACCSP, or administered through ACCSP, and so that may be something will come up with them.

DR. SWEENEY-TOOKES: Chelsey.

DR. CRANDALL: All right, and I still want to make sure I'm getting what's helpful to you all, and so it's really cool. It sounds like you've got ambassadors that are getting excited, in addition to being super users, and is that the sort of thing that's helpful to track, the number of times people reached out to bring you to a new place this year, the number of times someone reached out and said, I want to learn more, the number of times they said can I have some material, so I can tell somebody, and could it be sort of those theme-type bins of how do I change this?

MS. BYRD: Yes, and I think that's a great idea, and that's exactly -- As we've been, over the past couple of -- I guess it's been since last fall, really, that we've started to talk about this more broadly, even with the kind of outreach team, to try to figure out what are the buckets, or what are the category buckets, that we should be dumping these kind of counts into.

DR. SWEENEY-TOOKES: Kevin.

DR. HUNT: The comment on, you know, asking Sea Grant, and what we are asking our Extension agents to do is go beyond outputs now, and what are your outcomes, and the administration cares about outcomes. A lot of what we're talking about here, who is getting what, how many are we getting out, is outputs, and not outcomes, and so I think -- You know, I'm assuming you all have what are your desired short-term goals, midterm goals and long-term goals of each of these programs.

I think, if you can document whether you're achieving those outcomes, and who is achieving those outcomes for you, or with you, you may better be able to build relationships, as opposed to just counting fish, if that makes sense, and so a logic model for each of these programs.

DR. SWEENEY-TOOKES: Looking back at the questions that we were given, it feels like we tackled Number 1 pretty sufficiently. Do you get the sense that Number 2 -- I'm having trouble

reading all the way up there. I mean, Number 2 seems to be what Kevin was just addressing as well. Any other thoughts on either of these questions that we can share with them? All right. There's no hands online, and there's no hands in the room. There's a lot of places to check today for hands. Sorry about that. I'm not sure I'm keeping up very well.

We're going to take a short break right now, so Suzanna can mess around with the audio and see if there's any magic she can work, and so we will come back in ten minutes. Ten minutes, and so, folks at home, we'll see you in ten minutes.

(Whereupon, a recess was taken.)

DR. SWEENEY-TOOKES: All right. We are coming back to the table. Everyone has their cookies. So sorry, folks at home. We are coming back to the table, and, before we start this next section of Julia's presentation, Christina Package-Ward, if you're able to hear me, you had a really good idea to add to that discussion that we were wrapping up. If you are there, would you unmute yourself and chime-in?

MS. PACKAGE-WARD: Yes, and I was just thinking, and it's been a while since I worked with the social network analysis software to display networks, but you can use it to display networks with different symbols, from what I what I remember, and I think it was NetDraw that I had used, but, I mean, you could maybe use it to display like a different symbol for each individual, based on like the outcome, that I think that last person was talking about, or, I mean, you could look at it like by geographic location, sector, or other things, if you had a database of these folks, and I'm just thinking like it could be really cool, to take -- If you had a whole spreadsheet or whatever, take it and sort of like analyze it in different ways.

DR. SWEENEY-TOOKES: That's great. Thank you, and those of you at home cannot see, but we are, Christina Wiegand is very kindly taking notes, much like Judd does during the SSC, to help us with our notes, and so she just recorded that as well, Christina Package-Ward. Thank you very much.

MS. BYRD: Thank you, Christina. I am not very familiar with social network analysis at all, and so it's helpful to think about what we may need to do in order to look at stuff like that, and so thank you.

CITIZEN SCIENCE PROGRAM EVALUATION

DR. SWEENEY-TOOKES: All right. We are moving on to Agenda Item 4, and so, note takers, this is a new agenda item, and this is Citizen Science Program Evaluation, and Julia will be giving us an overview and then sharing data on the survey of scientists and managers in the region, and then I'll be presenting as well, before we discussed. It's all yours, Julia.

MS. BYRD: Thanks, Jennifer, and so you all are stuck with me for a little while longer, and so, as Jennifer noted, our program has been really -- We feel lucky to be able to work with some researchers, Rick Bonney, who is Director Emeritus of the Public Engagement Program at Cornell's Lab of Ornithology, and he's been kind of -- He's a citizen science expert and has been providing guidance to our program, and so we've been working with him, and then a team led by

Jennifer, to help us work through kind of an initial program evaluation, or to gather data that will help us with the evaluation moving forward.

I'm going to provide a little bit of an overview, to provide a little context of why we are interested in doing this sort of work, before kind of we get into kind of Rick and Jennifer's team's results, and so, to take things back really big picture, when we were doing strategic planning for this program, we came up with kind of a vision and mission.

The vision is to advance science and increase trust, one project at a time, and the mission of how we're going to do that is to build and maintain a citizen science program that's improving information for fisheries management, through a collaborative approach.

The program has four goals. The first one is really focused on kind of building and sustaining a program. The second goal is focused more on developing individual projects that meet South Atlantic needs, research needs. The third goal is focused on data, data that are fit for purpose, that are accessible, and the fourth goal is focused more on things like trust and learning, collaboration, and engagement.

One of the things we really wanted to make sure we are doing, not just for our individual programs, but for the project overall, is we want to make sure it's doing what the council wants it to do, and so how are we able to kind of meet the goals and objectives we have, and what are we doing, and is the program doing what we want it to do, what the council wants it to do? If not, how can we refine it moving forward?

Rick Bonney had been kind of advising our program, and we had talked to him about kind of this kind of initial evaluation idea for the program, and how should we do that, and so what Rick initially did was he helped us develop this kind of initial program evaluation plan, which we'll be talking about for the next little bit.

The idea of what we were trying to do is we really wanted to gather baseline information on the knowledge, attitudes, collaborations, and trust levels of various stakeholders in using a citizen science approach to collecting data for fisheries management decisions, and so we have lots of different audiences in the Citizen Science Program, but there are three main audiences that we were focused on for this work, kind of fishermen, scientists, and managers, and so he came up with kind of a three-step plan to kind of gather this information.

The first step was him doing interviews with a small group of fishermen, scientists, and managers, and the information gained through those interviews would be used to develop an approach to gather information from a much broader group of scientists, managers, and fishermen.

Then kind of things would be piloted, and kind of data would be collected, and then we would implement and analyze those results, and so we originally just had funding for the first portion, this kind of interview, initial interview piece, and so Rick completed interviews with six fishermen, scientists, and managers, and so he did that back in kind of -- It was fall of 2021, spring of 2022, and he presented kind of findings to the council, and, if you want to see kind of his full write-up of the findings, there's a link on the bottom, but, in general, what those initial interviews -- What he learned through those initial interviews is that scientists needed to be convinced that citizen science projects had sound design and that their data were really needed.

Managers needed to be convinced that scientists would use the data. Fishermen needed to be convinced that scientists and managers would use the data, and that -- You know, he found the fisherman audience needed to be studied in a lot more detail. You know, there were many different fishing sectors, and kind of people's opinions vary amongst a sector, and so he really kind of found that a lot more work needed to be -- To be able to kind of better understand the perspectives of kind of fishermen in answering these kind of questions.

He also noted that kind of doing an online survey with scientists and managers, and he thought it could be done, and it wouldn't be that challenging, but doing online surveys to fishermen could be more challenging, and so it may be good to look into other approaches to gather information from a broader group of fishermen, and, you know, he really found that, you know, in order to kind of dig more into the needs and desires and motivations and barriers for fishermen to participate and be interested in kind of citizen science, and how we can best reach them, it would require some additional funding.

We, again, originally just had funding for interviews, but, in order to really answer this question, and particularly in better understanding the perspectives of fishermen, we would likely need to find some additional funding sources, and we were really lucky that, back in kind of the summer and fall of 2022, we were able to get some additional funding through NOAA, Russ Dunn's shop, and the council to help support this work.

We put out an RFP, in the fall, to help us identify who may be able to work with us to gather information from a broader group of fishermen, and, moving forward, what we were going to do is have Rick Bonney do the online survey of scientists and managers, and then we were really excited to be able to work with a research team, led by Jennifer, to gather information from a broader group of fishermen, via interviews, and so there are probably many familiar faces in the photo of her team, but her team was Jennifer, and then Tracy Yandle, who served on the SEP and SSC for a long time of the South Atlantic Council, and then Bryan Fluech, who is with Georgia Sea Grant.

We were really excited to be able to work with both of these guys on this project moving forward, and so kind of folks kind of contributed and provided input on interview questions, survey questions, and then Jennifer's team got underway and did fishermen interviews from July 2023 to February 2024, and Rick did the online survey with scientists and managers between March and September of 2024.

Again, they provided preliminary feedback to our advisory team, shared their final reports, and what we did, with our advisory teams, is we kind of -- They kind of learned what Jennifer's team and Rick's team found, and then we talked a lot about, okay, and so, now that we have these results, how can we apply them to our program? How can we better refine our program, now that we've learned all this new information?

We came up with recommendations, and presented those to the council, to get their feedback, and today we're presenting results to you guys, to see if you have additional feedback, once you hear results from Rick's work, and Jennifer's team's work, on ways we may be able to refine our program, and, in particular, helping us prioritize things that we might want to concentrate on kind of in refining the program based on their kind of research results.

That is a quick overview of kind of where we've been, and what's been done so far, and so providing a little context for why we were interested in doing this work, and so I'll pause here, before kind of switching gears, and Rick Bonney isn't here today, but I'm going to do my best to kind of share results from his studies with all of you, but we'll pause for a second, to see if anyone has any questions about kind of how we got here and why we were interested in doing this work.

DR. SWEENEY-TOOKES: All Any questions for Julia, before we go into the findings? Any questions online? Is anyone monitoring online?

MS. BYRD: No hands?

DR. SWEENEY-TOOKES: No hands. All right. Carry on, Julia.

MS. BYRD: All right. Again, I'm not Ricky Bonney, but I will do my best to kind of present kind of his findings to you guys today. If there are questions that I can't answer, I'm happy to follow-up with Rick, and follow-up with you guys, answer any questions, but I think it's kind of helpful to get information on both kind of parts of the survey, to give you a broader picture of kind of what we learned through this process.

Back when Rick -- Back when the council started the Citizen Science Program, and Rick and one of his colleagues, Jennifer Shirk, kind of helped us develop the program, one of the things they were really interested in learning was, you know, can data to inform fisheries management be gathered through citizen science, and there were some starting assumptions.

One was that fishermen are knowledgeable observers, which I think everyone can agree with that kind of statement. One thing we kind of thought were fishermen were eager to participate, and we'll hear more about that kind of during this discussion, and that fishermen have many eyes on the water, and the idea was kind of the citizen science program could build on a lot of the cooperative research that's done, kind of in the fisheries area, and, in the South Atlantic in particular, there's been kind of strong cooperative research as well, and so the idea was this could kind of build on that.

When we're talking about it, it's not just fishermen that we need to be onboard with the program for it to be successful. There's also scientists and managers, and so we call it our three-legged stool, and so we need kind of members from each of the legs of the stool to kind of buy into the program, in order for it to be successful, and so one of the things Rick was interested in doing, through this research, was trying to figure out are those sorts of folks eager, or at least willing, to participate, and so the idea was to find out through research and evaluation, and so this work that's being done.

The idea for kind of collect information from scientists, managers, and fishermen, all three legs of our stool, and so the idea is we wanted to gather information on knowledge of, beliefs about, and attitudes towards kind of the fisheries data we have in the region, fisheries management, and then citizen science, and the idea is not only would this help with evaluation, and so, if we collect this baseline information now, perhaps in five years, or ten years, or whatever the right timeframe is, we could do something similar, to see if folks' perceptions and attitudes are changing over time,

but then also the idea is that it could help us with program development, figure out is the program doing the right sorts of things, or how can we adapt the program based on these findings.

Rick did an online survey, again, to gather data from a broader group of scientists and managers, which I'll be getting into next, and so he always points out that many folks helped contribute to the development of the survey. The survey was done in Qualtrics. Participants were recruited via email, and there was IRB approval through Cornell for this work, and so, again, when he talks about audience for the survey, it was focused mainly on kind of state and federal agency folks, as well as academics.

How he got contacts for potential survey participants is he reached out to kind of key leaders in these different organizations and asked them to provide names of folks who may be willing to participate in a survey like this, and then have kind of help from a variety of folks providing lists of names of academics. We shared kind SEP and SSC folks with Rick, and then as well as some other kind of academic folks who were recommended by other contacts that he had reached out to.

There were 150 names of folks that were gathered through this process. For the survey deployment, there was an initial email, and then there were three follow-up emails done. Rick always points out that normally he has typically done two follow-ups, when doing this kind of work, but did three here, after consulting with us, to try to kinds of increase that kind of response rate. The response rate was between 48 and 53 percent, and the reason he gave a range here is because 53 percent of participants answered at least some of the questions, providing kind of useful information, but 48 percent of folks answered all the questions.

The respondents who responded to the survey, about two-thirds identified, self-identified, as scientists, rather than managers. They were equally distributed across the states. There were about 40 percent folks who were kind of federal folks, 40 percent state folks, and 20 percent were academics, and nearly half of the folks who responded had worked in the kind of fisheries field for at least twenty-one years, and so these are people that have a lot of experience.

When Rick normally kind of shares information on this, he says, in some ways, you know, you could argue that it would be helpful to kind of have some younger folks, or some less experienced folks, kind of in your kind of respondent pool, but a point he often makes is, you know, in order to -- It's important to get buy-in and have -- You know, from folks who are experienced within the field, and so he felt like, even though kind of we were talking to primarily people who had a lot of experience in the fisheries field, that may be a good thing for this kind of work.

He also noted that the respondents had nearly all been involved with the council in some way, and more than half had participated in either kind of an advisory panel, or a committee, or had been involved with a SEDAR stock assessment in some way.

Now I'm going to get into kind of some of the results he had, and so this first group of slides will be from gathering information on fisheries data kind of and management, and so, this first slide, we are trying to get, or he was trying to get, a sense of how familiar folks were with the various kinds of fisheries data collected and used for management in the southern area.

The numbers across the bottom are kind of the number of respondents, and so you can see kind of on each bar represents a different type of data, and so you can see that most of the folks who

participated in the survey were very familiar with all the different data sources that are typically used in the South Atlantic, and there are also a lot of people who are familiar with citizen science data as well.

The next question that was asked was asking if -- Based on kind of all of the above sources of data that were in the previous question, if those are taken together, do you think there's sufficient information on which to base management recommendations, and the large majority said sometimes, but more data would be helpful for a lot of different -- For many different species, and so many people felt having more data is a useful thing.

Then the other thing he noted is, a lot of times, we asked people to respond to a question, and then they could provide additional information, or additional comment, and so I'm not going to walk through all of these comments. This is just to show that many respondents provided additional information, really valuable information, that we can use to kind of further dig into to better understand some of kind of their responses to questions.

The next question was asking -- We know we wish we had kind of unlimited resources to gather data to help inform fisheries management decisions, but, knowing that's not possible, how do you think data can be best acquired, and so this question was done with forced rankings, and so people had to select kind of a ranking of what they felt was kind of the best way that they thought more data could be acquired, knowing we have limited resources.

This shows a ranking of one, and one is what people thought would be kind of most effective to collect additional data, and you can see here that -- A little surprising, at least to me, when he shared these results, is a lot of people felt that citizen science could be one of the kind of most effective ways to help collect additional data, but, on the other end of the spectrum, there are also a lot of people who thought -- Who ranked it sixth, and so, you know, there's this bifurcation. Some people thought it was the best idea, and some people thought it was kind of a so-so idea to collect more data.

Another way he dug into this is he looked at the mean ranking. In this table, you can see kind of the mean ranking is here, the standard deviation, and, although I don't think he did statistical tests on these, and so some of these are probably definitely not significant, but you can see kind of where citizen science kind of falls within the other data sources.

The next section is based on trying to gather information on beliefs and trust, and so, in order to do this, Rick put together kind of a series of statements, and respondents were asked to say whether they kind of somewhat or strongly agreed or disagreed with the statements, and so these are -- He pulled together statements where respondents somewhat or strongly agreed, and so these are kind of, one, that fishery managers use data to make management recommendations, and so folks agreed with that.

They thought that fishermen should have a voice in fishery management decisions. They agreed that fishermen have a responsibility to participate in fishery management and that fisheries managers consider the needs of fishermen when making management recommendations, and so these are the statements that folks kind of strongly agreed with.

When you look at the statements that folks somewhat or strongly disagreed with, they found folks disagreed that scientists trust managers to use data to make management recommendations. They disagreed and thought that fishing industry -- They disagreed with fishing industry associations have the best interest of fishermen at heart, which was a bit of a surprise to me.

They disagreed that South Atlantic fisheries were generally healthy, and they also disagreed that fishermen trust scientists to collect information that are representative of their fisheries, and so they kind of are acknowledging that there are these kind of trust issues between scientists and managers and fishermen.

The last portion of his work focused on gathering information on citizen science, and so all the respondents were somewhat to very familiar with citizen science. About two-thirds had either kind of participated in -- Had participated in citizen science in some way, and either they had done projects or had used citizen science data in some capacity.

More than half felt that citizen science could be very to extremely useful in collecting information to help inform fisheries management, and so the first question was asking more about the ways that folks have participated in citizen science, and so lots of people had participated and collected data through a citizen science project. A lot of folks had analyzed citizen science project data, and kind of the most folks had shared or promoted citizen science to other folks.

Then he asked about what concerns people had about citizen science, and there was kind of a list of concerns, and then kind of an other category, where folks could select other and provide kind of more details on another concern that they may have, and so perhaps not kind of unusual, or unexpected, and some folks had concerns that the data wouldn't be collected according to a certain protocol, or they wouldn't be collected randomly, and some people had concerns that fishermen may not be truthful about their data, that insufficient data would be collected over time, or that scientists and managers wouldn't use the data.

When you dig into kind of the other category, folks provided a number of other kind of concerns that they have, some of which kind of may fall into kind of the buckets of the earlier categories, and some are a little bit different, or provide more context, or more detail, and so, again, I'm not going to go through these, but people really kind of gave thoughtful answers to kind of all these questions, and so, again, more kind of specific concerns that folks mentioned.

Then one of the last things he did was so the South Atlantic Council has this list of citizen science kind of research priorities, and so what he asked folks to do is to rank the top five of those priorities that kind of scientists and managers thought would be the most useful data for the Citizen Science Program to have projects that focus on, and so the most useful data was ranked one, to the least useful was ranked five, and so these are just kind of a summary of the kind of number-one rankings for folks.

Overall, folks thought that citizen science data would be most helpful to collect information on discards, or released fish, followed by age sampling, and genetics, and, again, this is just kind of the perspectives of scientists and managers. You know, they need to be-- When you're thinking about this in the context of citizen science projects, you also want to think about what fishermen may be motivated to participate in and how you could set up a project that would be appropriate for a citizen science approach under each of these topics.

Again, this is just kind of a mean table, again, so you can see, kind of ranked, the different topics that folks thought -- That scientists and managers thought would be most useful for citizen science projects to collect data on. Again, information on released fish, or discards, was kind of the highest ranking, and so, the lower the ranking, the more useful kind of respondents thought it would be.

Then he always like to have this question, or this note, in here, too, is one of the things that he asked is are you willing to provide your contact information, so that, if folks want to reach out to you with any follow-up questions, you can. Half of the people responded that they would be willing to kind of talk to us about any additional questions, or, if we want to dig into any of their answers, they would be happy to do that, which is great, and then kind of here are some of the takeaways and conclusions and recommendations Rick had from this work.

One, he felt that the survey reached kind of needed allies. He notes that we need to take the attitudes and beliefs of kind of this group, these scientists and managers, very seriously as we're moving forward with the program. He was excited to share that citizen science is generally supported by many of the respondents, and that many felt that citizen science is one of the most appropriate tools to gather data on certain topics, but he did, you know, acknowledge, and understand, that folks had a lot of valid concerns that need to be better understood and addressed.

Many of the comments were about kind of rigor of program design, and so, you know, a recommendation is to involve scientists and managers as much as possible in ongoing project design. That's something we're trying to do within the program now.

We have what we call design teams, which is basically a group of -- It's a workgroup of people who have differing expertise that work together to help us design and develop our projects, and so we're trying to do that, as much as we can right now, and I'm sure there are ways we can improve that, and then he also said it would be good to advertise that, you know, we have these design teams, and scientists and managers are involved in a lot of the projects that we're developing.

Then he recommends us reaching out to those who have invited further discussion. We could potentially hold meetings, or webinars, with those stakeholders, and then one of the recommendations is kind of that he is suggesting that we compare the rankings of which topics scientists and managers thought would be most useful for citizen science to collect data on, to be compared with that to the rankings that -- Or kind of information for fishermen that came from Jennifer's survey, and so we've started to do that, and I'll be able to share that information to you a little bit later.

Then his last recommendation is that we preserve this data for future evaluations and comparisons, so hopefully we can do something similar like this again in a couple of years, five years, something like that, to see if any of these kind of attitudes have changed over time, and so that's a nutshell. I'm not as flashy as Rick Bonney is, but hopefully that gives a good overview of kind of his survey, and some of his findings, and so I'm happy to try to take questions, if you all have any, on this work, and, if I can't answer them, I will reach out to him to get you answers.

DR. SWEENEY-TOOKES: All Thank you very much, Julia. I've seen this presentation at least four or five times now, and I can tell you that you did an admirable job. It was very well done.

It's my first time seeing you give it, and so questions for Julia about this portion of the project, any of Rick's work? Jason.

MR. WALSH: This is Jason. I had a question about slide 22, when it said respondents somewhat or strongly disagreed with scientists trust managers to use data to make management recommendations. When I was -- Maybe I missed it, but, when I was reading the paper, it looked like 20 percent of scientists didn't trust managers to use data to make management regulations, which I thought was high, but I don't think -- I don't get that out of 20 percent disagree, and so I was just curious where that question was coming from, if Figure 11 is that question, or if there's another, and I don't know. I might have missed it.

MS. BYRD: So I'll have to say -- I'll need to go back into the report, and dig into that, to better answer your question. There should be -- I mean, maybe, when Jennifer is presenting, I can kind of dig up and pull up the report and look into that, but I know he asked -- There was a relatively high amount of folks who responded that scientists -- Or disagreed, and I think it was somewhat disagreed more, that scientists trust managers to use data to make management recommendations. I think you're looking in the right place, but I can't better kind of clarify, or address that question, unless I dig into the report, which I can do with Jennifer is presenting, and so sorry that I don't have a more specific response to you right now.

MR. WALSH: No worries. I think maybe there's just two questions, or something about this, and I'm not sure, but what I'm seeing in Figure 11 is just not representative of that statement, and so that's where my confusion is coming from. Sorry.

DR. SWEENEY-TOOKES: All Thank you, Jason. Julia will look into that. Other questions? Anyone online with questions? I don't see any people's names listed, and so, every time you type in no hands, I have to squint and go, whose names is that? Oh. No one. It's hell to be blind. All right. I see no other questions for you, Julia. Thank you so much for presenting, and we'll have a short pause while we trade chairs. Kevin, you had a follow-up question?

DR. HUNT: It was more I following up on Jason Walsh's question, and, looking at the actual report, and these are ordinal data, and so the mean can confuse you, and I think Jason was pointing out that how can you have that statement when only 20 percent disagreed, and, well, the mean is listed on page 15 of the report, and it's 2.51, and so it might have been that was the interpretation from the mean, and not necessarily the distribution of the respondents, and so -- But I thought a mean of three would be consistent with that statement, and so it's the same thing. A mean of 2.5, we're agreeing -- We agree it's the low end of the scale.

MR. WALSH: Right.

DR. HUNT: Yes, and that may be misplaced, that recommendation, or that result.

DR. SWEENEY-TOOKES: Thanks, Kevin. Any other comments? Julia is over there digging into the report, and so any other comments or questions? She will find those answers. She is persistent. I see no other hands, even virtually. All right.

Well, then it's my turn to present to you. Julia, thank you for setting me up so well. I just want to start off by thanking the council for the funding to do this work, the Operations Committee for

their consistent and helpful feedback, to Julia for her expertise and her skilled and very kind guidance of this work, and Christina for helping us out with maps, and quick answers on data. This has definitely been a team effort, and so I'm presenting on behalf of myself. I'm an applied cultural anthropologist, for those of you who don't know me, a member of the SSC, and the chair of the SEP.

This was very much, again, a team project working with Tracy Yandle. She's a political scientist with expertise in fisheries policy, and she served on the SSC and the SEP for many, many years before she decamped to New Zealand, and so we had a twenty-four-seven team working on this project, and it actually worked out beautifully. We've been working in the South Atlantic together since 2013, and working with Bryan Fluech, of Georgia Sea Grant, since 2015, and so we were able to hit the ground running on this project.

Julia did a beautiful job of explaining all the context, and so I don't need to dwell on any of that, but we were tasked with identifying and assessing the opportunities and barriers to fishers' participation in citizen science, and suffice it to say that this potential study population was tremendous. There's four states, three sectors, 19,000 commercial and for-hire permits, and untracked, or differentially tracked, recreational anglers across all four states.

I've said this before, and I'll say it again, and, every time we thought about this project, and we wrote our proposal for this contract, we couldn't help but think about the quote of the only way to eat an elephant is one bite at a time, and so we had to make choices about a series of bites, and it's really important to note here that the entire project was really constrained, of course, by funding and timing. That's what always gets us in social sciences, and so some difficult choices had to be made to successfully complete this task.

Let me explain to you very quickly what we did. I presented to the SEP several years ago on the methods, the methodology, we used to approach this, and that was a series of slides. Today, you're getting one slide to explain it all, but, because I am a college professor, and a big dork, I have put page numbers on every slide to point you to the report, and so, if you would like more details about any topic you see here, you'll see, in the top-right corner, report pages 4 through 10.

Very briefly, how did we approach this elephant of a population and a problem? We took that 19,000 permit database, and we eliminated any permits that had addresses not on the Atlantic coast or any permits that didn't have addresses. We chose to focus on two contrasting fisheries, the snapper grouper fishery and the king mackerel fishery. We identified which fishing communities had high landings in those fisheries, and we sorted them into four geographic segments, by fishing culture and affinities, and we ended here with a potential target study population.

This was further refined then using a random number generator, and we identified target permit holders as part of this random sampling, and then we engaged in some pretty intensive recruitment for commercial and for-hire fishers. I am happy to go into more detail about any of those things when I'm done. Just say the word, but what did this look like?

We did personalized targeted recruitment for each population. For for-hire and commercial, we wrote -- We made postcards, that you can see in the top-right corner, and we sent that invitation postcard to the home address for the targeted permit holder, and then we found phone numbers,

using online sources, and we sent two texts, and sometimes even gave a phone call, before we moved on to the next set of names on the randomized list.

For the anglers, of course, we have a wildly different situation. For each of those geographic segments, we identified fishing organizations in that community, and then we approached them with a request to help us recruit for the study using their membership rolls, or any other means that they thought was a good way to get ahold of recreational anglers in their community, and so you can see our targeted recruitment here, and our four different geographic segments, and we were looking for proportionate numbers of commercial, charter, and recreational anglers in each area.

We crafted our own interview guides. Here, we were incorporating some of the citizen science topics shared by Julia and Rick, but also bringing in existing questions that Tracy and I had created for previous NOAA Saltonstall-Kennedy projects and marine fisheries marketing grants, and so, for each of these people that we were targeting, we offered telephone, video, or in-person interviews, and we -- I know, right? I'm getting faces in the audience.

We traveled to each of those four segments once, and did in-person interviews in that segment, and we were able to do forty semi-structured interviews between July of 2023 and February of 2024. It was a lot, and so, before I jump in too much here, I want to be really specific that our project incorporated both quantitative and qualitative methods, and forgive me.

I'm talking to talking to the Social and Economic Panel. You all know this stuff, but these are also the slides that I used to present to council and to the various groups, and so I really wanted to make sure that people were on the same page, that we talked about how the typical closed-ended question survey is like ranking and Likert and multiple-choice, really excellent tools for understanding what people do, but there's a limited nature to closed-ended questions. They have really limited utility for understanding why people make specific choices, and so the quantitative questions limit people to what the researchers presuppose are most the likely answers.

Qualitative gives the opportunity for participants to discuss the complexity of decision-making. It provides the data necessary for thematic analysis, to determine key barriers and motivations. Of course, both qualitative and quantitative research methods have rigorous norms, requirements for interpretation, clear methodological processes, and they're equally valid, equally thorough, and it really makes them complementary.

We combined them here to give insight not only into what people thought, when we forced them to choose between limited options, but also why they held those perceptions and how their responses could be situated into a larger understanding of their worldviews, and so what did we find?

Well, I'm going to start off with a little disclaimer, okay, and the data in this first section is on trust and worldview, and this does not directly address the topic of citizen science, but these are crucial background issues that underlie any future citizen science efforts in the region. Research does not take place in a vacuum, and so there's really a need to understand the potential audience for collaboration, because this will support the creation of -- I'm sorry. For collaboration to support the creation of stronger potential projects.

First, I would like to talk to you about management results, and you're going to see, here on the slides, I have the screen split. On the left-hand side, we have quantitative results, in a chart, and then, on the right-hand side, we have qualitative themes, in a different chart.

This is also where I give my disclaimer that Tracy is the quantitative scientist, and I am the qualitative, and so, if you have any intricate quantitative questions, I will also be writing them down, and getting back to you on those things, but hopefully most of it becomes really clear.

We have a series of statements, where we asked how often people did each of these things that you see on that chart, whether they did them never, sometimes, or usually, and the responses -- The cells are coded in green when over 50 percent of the respondents did that thing, and the green gets darker, to indicate more people doing that thing.

The never do this cells are coded in red, when more than 50 percent never do that thing, with the shade of red becoming darker as more and more people never do that thing, right, and so we're looking at intensities of positive or negative responses, and what you can see here is that all of the sectors participate in the easier activities, like discussing fishing with their peers or reading the federal materials, much more than the harder ones, and the recreational sector engages in those easiest activities the most.

Across all of the sectors, attending federal meetings remains extremely rare, and speaking at them even less often. Some commercial fishers do report engaging in the harder activities, like going to federal meetings, and even speaking sometimes, but recreational and charter have the highest rates of never doing those things.

Then we dug into the qualitative themes, and why is this? What's going on here, and these were long interviews. Most of them were a minimum of forty-five to sixty minutes. Some of them went over two hours. We're very flexible when we do these interviews. We want to listen as long as people have something to tell us.

What the data showed us here was that people really felt that there was no point in engaging. They felt like it had no effect, and the time and money needed to travel to meetings was a barrier to many of them, even if that meeting was in the same state, even in the same region of that state, and, in addition to that, there was a lot of confusion about who each agency is, and what attending that meeting would even accomplish, and we call that the black box of fisheries regulations, and I'll come back to that in a little bit.

Then we moved on to trust. Again, we have the quantitative results on the left, and qualitative on the right, and, for the first set of questions, in the top chart there, you can see we named a group of people, and we asked can these people be trusted, or do you need to be more careful with them, and we're not saying they're outright crooks, but we do say that you can't be too careful with these folks, and this is based on the long-established Integrated Value Survey.

Tracy loves this, and we can give you lots more details, if you want to look at that Integrated Value Survey, but, here, the cells, again, are shaded green if the level of trust or distrust is more positive than the level of generalized distrust or distrust, and the cells are shaded red if it's more negative, and so the levels of generalized trust in the U.S. population are estimated to be 37 percent, and this is broadly in line with our survey as a whole, but trust really varies here between the sectors.

Recreational anglers have a notably higher level of generalized trust than the U.S. population, which is about 50, and then commercial and for-hire both have less than the U.S. population.

The levels of distrust in federal regulators is high, with for-hire fishers reporting the highest levels of distrust, at 93 percent, and, in addition, two questions from the world view section, which you can see in the bottom chart on the left, those are also relevant to trust. We asked fishers whether they agreed or disagreed with the statements, and these results show an extremely low level of trust of federal regulators, and the most stark example of this is that less than 7 percent of the for-hire sector trusts regulators to make the right decision. The highest level of trust is shown on recreational anglers, but even here it's only 25 percent.

So digging into it, what's happening here? The things that we heard over and over is that each sector really believes and feels that their own sector is getting unfair treatment, and that the other sectors are getting too much, and they can give lots of examples of how this has played out in their own experiences.

The fishers don't believe that the people in charge of making regulatory decisions are qualified, and that maybe their decisions reflect their own personal biases, and they question the scientific information. They think that there might be accidental or intentional data manipulation happening, and these are the reasons why.

Then, finally, we addressed general world view questions in regards to management, and here we asked fishers to agree or disagree with statements that we posed to them. The agree answers are shaded in red, because they illustrate a negative view, and green if they portray a positive view, and so, surprisingly, the fishers' world view about management was pretty consistent across the sectors, and it really presented a nuanced understanding of fisheries management.

Broadly speaking, the quantitative data showed us several things. First, that fishers feel welcome at meetings, but they don't think their voices are heard, and they don't agree that their opinions are taken seriously, and they don't believe that regulators are fair to everyone. Less than half of the commercial and the for-hire fishers believe the information being presented by fisheries managers.

Fishers have really complex beliefs about fishing regulations. Across the sectors, they agree that regulations help preserve their fishery, and yet commercial and for-hire fishers also agree that these regulations threaten their livelihoods, right, and so this juxtaposition of statements really suggesting that they believe fisheries regulation is necessary, but they're frustrated with how it's carried out and the impact that it has on them and their lives.

While fishers report relatively low levels of participating in management activities, particularly federal activities, a remarkably high proportion, 83 to 100 percent, agree that they have a responsibility to participate in fisheries management. They agree that they work hard to preserve the fishery. They feel connected to other fishers. They also agree that the environment is important to them, and they disagree with the view that the ocean is large, and we cannot overfish it, and so, together, these statements really suggest that fishers perceive themselves to be guardians of their fisheries.

The qualitative data really helped us tease these ideas apart just a little bit more. What fishers see on the water conflicts with what they hear from scientists and through the management process,

and that was mentioned earlier in other presentations. Further, the way that scientific sampling is carried out conflicts with their tested and successful ways to find fish, and while this, of course, is the case for scientifically-valid reasons, that's not being conveyed to stakeholders, which furthers that concern.

Many have offered to support scientific efforts, and they have been rebuffed, and they see the complicated nature of a multispecies ecosystem, and then they're witnessing firsthand the effects of single-species management. They're also seeing non-fishing-related environmental issues that are impacting their fisheries, but they feel that the problems then are being attributed only to the fishers, rather than polluters or other inputs, and so what does this mean?

Well, we put these results together into what we call our key findings in the report, and they start on page 58, if you're interested, but the first is that fishers do not feel valued or heard. Across all sectors and regions, they report attempting to engage with federal decision-making, but often withdrawing in frustration.

They're taking time away from their work on the water to make statements in an atmosphere where it felt to them like the decision was already made. Many of them mentioned that, of course, public comment was required, but it was very legalistic and performative. It did not reflect what they felt was genuine listening and hearing. We also make recommendations, that you can see in the right-hand column, and I'm not going to read all of those, but feel free to look at them, as to where we can go with this information.

The second key finding is that the voices of the public comment do not represent the fishery. Commercial fishers were disproportionately most likely to report attending and speaking at federal meetings, but even then they were a very small minority, and so they cannot be considered representative. There is some unidentified variable at play, whether it's weather or income or education or age or social network, that's driving their willingness and ability to engage, and so we need to acknowledge that there is a silent majority of fishers in all sectors whose ideas are not necessarily being expressed at meetings.

Many of them mentioned, and brought up, that they had observed and seen environmental groups who could financially support someone to go to council meetings, to go to federal meetings, to make comments representing their group, but this wasn't a luxury that many of the fishers felt that they had.

The second set of key findings centers around a trust crisis. The fishers really deeply distrust management, and the lack of trust expressed by the study participants was really profound. The starkest example is that less than 7 percent of the for-hire sector and 15 percent of the commercial sector trust regulators to make the right decision, and the highest level of trust is among recreational fishers, but even here it's only 25 percent.

Fishers are really skeptical of the science being used by management. There is a fundamental disconnect between the regular, often daily observations of the fishers who are on the water and the information they're being told as part of the management process, and this dissonance influences their confidence in the validity and the objectivity of the best scientific information available, which regulators are, of course, required to base their decisions.

Then, lastly, federal fisheries management, as I mentioned earlier, really is a black box. It is a complex system, right, and we have an alphabet soup of agencies and committees. I mean NOAA, NMFS, SAFMC, APs, SSC, SEDAR, MRIP, and not MREP, Florida FWC, Georgia DNR, right, and we could go on, and we could probably make a really fun list, but what that means is this management process, even to us in this room, is intricate, and sometimes difficult to navigate, and there's just a fundamental disconnect between the ways that fisheries management operates and people's understandings of that process and those agencies, and so frustration with one agency potentially disrupts their perceptions of and participation with all agencies. This is something we've heard over and over and over. We would say who did this, or who does that, or who decided this, and it was they and them, the government, NOAA.

This is sort of the terrain into which we enter, right, and so now let's talk about citizen science. This section was really intended to eliminate the landscape, right, and here now I want to talk about citizen science only. I'm going to talk about their experiences with it, their concerns about it, the possibilities for it, and what could be done to encourage engagement.

Here I'm going to sort of separate the qualitative and the quantitative. I'm going to start off with some qualitative findings, and include some direct quotes from participants, before summarizing those into our key findings and the quantitative measures, and, of course, the most popular suggestions.

Many of the people that we interviewed had some sort of collaborative research experience, especially fish tagging. Most of them were not familiar with the term “citizen science”, but, when we explained it, they thought it could be useful. They had positive reactions, like the things that you see on the right-hand side of the screen. They said things like fishermen are the true scientists. They made suggestions about how to make fishers want to engage with projects.

A lot of this had to do with the transparency of the project goals, the potential use of data. As one said, the more information that you give back to us, the more that people will be interested in participating. They warned though that we need to be careful about bias and reliability of the data. There's no room for, quote, a bunch of citizens with their own agenda, right, and so the fishers are concerned about this as well. A great example was they said, oh my gosh, you know, people are going to submit a bunch of bogus data and say the fisheries are in great shape, and let me get 8,000 redbfish, right, and so there's some concern about this.

They raised many concerns, and they mentioned realistic obstacles that need to be considered, particularly around the need to make sure data collection is voluntary and not obligate. They said, quote, commercial fishermen don't like scientific stuff crammed down their throats. They questioned how useful scientists would actually find the data, and so pointing back to the work that Rick did with scientists and managers.

They pointed out that financial and temporal constraints would make engagement really difficult for many fishers. One reported, at the end of the day, he could barely find his wallet, his phone, and his car keys, and he sort of joked that I don't also want to be searching for that bag of otoliths.

They had thoughts about how to encourage engagement and suggestions for some of the best approaches, and the first quote probably is the most important, and we heard this over and over and over. If you're going to do citizen science, you need to manage the expectations. This is not

going to be an overnight process. They suggested being very transparent about the length and the uncertainty of the research project, but also point out that -- Or citizen science projects should point out that it could positively impact their fishing.

They stressed that you need to be clear, honest, and respectful in communication. How you present has everything to do with the reception, and some told us, well, some fishers might be willing to participate without compensation, but many don't have the time to do so, and they said things like, quote, everybody is out here to make a dollar, and so these themes led us to several additional key findings.

The power dynamics in this situation mean that this is not necessarily traditional citizen science. In the traditional citizen science model, participants are volunteers who are motivated to participate by their own intrinsic values, all right, and they love birds, and they like to watch them, or they think it's interesting to look at historic photographs, and another characteristic of this traditional volunteer relationship upon which citizen science is built is that volunteers are not dependent on the entity organizing the projects, and, indeed, the citizen science projects are usually dependent on the volunteers, but a fisher citizen science project would have fundamentally different power dynamic.

Fishers are regulated by the organization who may ask them to voluntarily provide data, which could be used in regulations which could impact their own lives, right, and so, particularly in a setting rife with distrust, and depending on the nature of the project, citizen science could ask participants to provide data that could later be used against their own interests, resulting in things like area closures.

The second key finding from this section is that a volunteer model is maybe not the best way to describe this situation. It would be a logical fit for recreational fishers, who are engaged in a hobby, to participate in citizen science, but it might be more problematic for fishers who make their living from fishing. Commercial and for-hire fishers have invested financial capital in their businesses to engage in the industry, and time and energy to gain knowledge and experience in fishing, and they are experienced professionals in their chosen careers.

Rather than thinking of these sectors as volunteers, a more accurate model is that a citizen science program would be asking them to provide pro bono services, like a lawyer taking on an indigent client, or an accountant giving services to a non-profit.

There's really a need to recognize the professional nature of commercial and for-hire fishers, and then the last key finding for this section is that recreational fishers, as partners for the citizen science, might be the perfect first fit, right, and they might be the perfect first partner for a fishery CitSci program. They don't have the added complexity described for professional fishers, and they have the highest levels of trust in federal fisheries management, and they were consistently the most interested in participating.

We asked people what sorts of projects they thought could be done, and what sorts of information fishers could gather, and there were so many good ideas, and a lot of them centered around the types of things you see here. They mentioned doing things to record details about fish that were being caught, or were discarded, doing photography relating to charter boats or headboats,

documenting the water conditions, doing fish tagging, maybe doing projects for charter clientele, and these might be things that are already being done.

I am not the authority on all data being gathered across all the different programs and methods in this entire region, but my knowledge isn't really what's relevant here, right? This is what fishers told us, and so, if they say that it should be collected, then they don't know that it already is, and then that's a hint to us about what's being successfully conveyed to stakeholders and what isn't.

We also quantified their willingness to engage, and this is where I come in with some good news. We asked people for honest, frank assessments of whether or not they would be willing to do these activities, and, by this point, we're, you know, forty-five to an hour-and-a-half into these interviews, and we have developed a rapport. People are being realistic. We've heard the good, the bad, and the ugly, and people were really being honest at this point.

That being said, with only a few exceptions, over half of the fishers in each sector expressed willingness to participate in some citizen science activities. Of course, this, unfortunately, as we all know, is probably an overestimation of willingness to participate, compared to the broader fishing community, as this data is being drawn from fishers who were willing to sit down and talk with us, right?

Broadly speaking, recreational anglers have the greatest enthusiasm, and commercial fishers the least. You can see, in the last column in this chart, recording shark depredation was a universally popular activity, and this would be a natural fit for citizen science. Other widely popular activities included things like fin clips or information on data-limited species. Recreational anglers in the Space Coast and the Keys have the greatest interest in participating.

I will note that we did ask a follow-up question to anyone who told us no to any of these things. Once we got through all of them, we would say, now, what if you were being paid to do this thing, and the answers really didn't change. There was maybe one or two. I mean, we couldn't even really analyze it. We looked at all of that and went, no, and there's not enough numbers to support this, and so people were either willing or not willing.

Now, I understand the complexities of this, but I would be remiss to every person who sat down and talked to me during the study period if I did not convey fisher thoughts on this topic. I promised. Sharks are a significant and overwhelming issue across the region, impacting all three sectors. I know you know this. They are eating and damaging and destroying catch. They are following vessels, and they are ramming vessels. They are making fishing impossible for many people, who would tell us stories of moving their fishing location three to four to five times and having sharks just follow them wherever they went.

If we had to suggest the most likely idea for citizen science, this is it, and I will just close it with my favorite quote, a gentleman who said that would actually give me pleasure, to record shark depredation. He said I would love to tell you how many times I said F-you to sharks in one day.

So where does this leave us? A successful citizen science program in the region has the potential to increase fisher trust in management and rebuild collaborative fisher-management interactions. It could be a very valuable tool for the council, maybe most immediately and directly to fill data gaps, and maybe provide the information to supplement MRIP.

Longer term, it could be part of a solution to more fundamental challenges, like lack of trust in management, or the science, or opening that black box of federal fisheries management. A co-developed and transparent citizen science program could be a valuable tool, and a change agent, and this, of course, would need to be in a generally collaborative working relationship, and, if this is established and successful citizen science, it could be a transformative force in effective natural resource management, but, as we came back to that original question, right, of how and why would fishers participate, or not participate, in citizen science efforts in the South Atlantic, our research really eliminated, without us looking for these things, and this is why qualitative data collection is awesome, some design elements that should really be considered if trying to construct a citizen science program.

The first one would be that it needs to be genuinely collaborative. It needs to be developed in cooperation with fishers, responding to fisher interests, reflective of their expertise in the process, how to carry out recruitment and further engagement, and the entire project, from brainstorming to data collection on vessels or at shore, should be vetted by fishermen, to make sure it is realistic and reasonable. It should be relevant. It needs to respond to their concerns, being perceived as being necessary to improve or address a problem, and, if there are scientist-originated topics of research, they need to be really critically and honestly evaluated, by a diverse group of fishers, before trying to start a project.

It should be simple. It should be really clearly explained, with fishery questions and concerns addressed completely. It needs to require minimal effort, minimal use of materials, minimal time investment, because asking more can be perceived as disrespectful, or dismissive, of professional pressures and professional time commitments.

It really needs to be non-duplicative, and we heard about this a lot, since there were several new apps, and several new reporting things, that were being rolled out across the region when we did these interviews. It needs to not replicate information or data that's already been gathered in different ways. If it's already been reported in trip tickets, or an app, or other means, it should not be gathered in a citizen science project, and, if it has to be, then it really needs to be addressed, that this duplicates what you've already done, and here is why it's important.

It needs to be culturally appropriate to the region, the geographic segment, and the sector. Things that are pertinent and interesting to commercial fishers in the Carolinas may be of no interest at all to recreational fishers in the Keys, right, and there should not -- We warn against trying to create one-size-fits-all programs for the entire region.

Those initial projects are going to be very important. Those potential citizen science projects in the region will be most successful if they meet all of those criteria, as well as be really thoughtful and deliberate about which populations and which projects to start first, right, and I've mentioned this a few times, but recreational fishers in the Keys have the highest rates of interest and potential participation, the highest rates of trust, and they might be the best first try group to collaborate with.

For-hire captains who are interested in involving their clients in citizen science may also be a really good second pool of collaborators, but the structure and the success of those first few projects is going to be key to future engagement in CitSci across the region, and so I will wrap up there. I

was trying to speak so quickly, and I'm sorry, and I've still gone for a fair amount of time, but many, many thanks, again, to Julia and Christina, and the whole crew at the council, and my dear students, who transcribed interviews far more

It's still a long program and I'm running out of time. Many, many thanks again to Julia and Christina, the whole crew at Council, and my dear students, who transcribed interviews far more quickly than they had ever dreamed I would force them to do, and all of the fishers took time to sit down and talk with us. Questions? Kevin.

DR. HUNT: This is Kevin. Great job. Really useful data. Now, my question, and I'm going to tap into your theoretical background. How much of what you've found is consistent regardless of what government program we were looking at? Is this common, and you could ask farmers, and we're going to hear the same type of things, and so what was different from what you know beyond the fisheries literature?

DR. SWEENEY-TOOKES: I both love that you've asked that, and you're in good company, because it was the first question asked of us at council, and I hate that Tracy is not on the call, because she jumped up immediately with lots of data about the rates of distrust and frustration in management agencies, and she was pulling from Bureau of Land Management, Department of Parks and Natural Resources, and I've forgotten all of the different agencies, but the levels of distrust are still far worse in fisheries than they were in any of the other agencies. I can get that for you, and send it to you, if you're interested. Jason.

MR. WALSH: I have a question on slide 11. I thought it was interesting, and so about half of the rec sector attends meetings, over half of the commercial sector it seems like attend meetings, and it seems like the for-hire sector is the one that is not -- Disproportionately not participating, based on this study, which I thought it was interesting. I was trying to understand that, and I was thinking maybe are there younger participants in the for-hire industry, that -- I was trying to think what's different about the for-hire industry, versus commercial and recreational, and just, based on my experience with going to meetings, it's often an older crowd that is participating in government meetings. I was wondering if you had looked at the for-hire respondents and had any thoughts about that.

DR. SWEENEY-TOOKES: That's a good question. As I'm looking at the meetings, to me, there's a really big difference between the meetings held by other groups, which have those high rates of participation of recreational anglers, and then federal meetings, which, I mean, are still high among recreational or -- I'm sorry. They're not high amongst them, and so --

MR. WALSH: I guess I was adding the sometimes do this and usually do this, and so like half of the rec sector either sometimes or usually attends, right?

DR. SWEENEY-TOOKES: (Dr. Sweeney-Tookes' comment is not audible on the recording.)

MR. WALSH: I'm looking at attend government meetings.

DR. SWEENEY-TOOKES: Is it federal meetings?

MR. WALSH: Government meetings. I guess I was -- I was thinking of that as like fisheries, like state meetings, and was this question asked as like civil participation outside of fisheries?

DR. CRANDALL: Can I follow up, too? Can you remind me of the quantitative, and is that -- That's still for the forty interview participants, right, and so it's not necessarily everyone in the sector, and it could just be the folks that were in the interviews, and maybe more of them participate or don't.

DR. SWEENEY-TOOKES: Yes, you're right. I mean, the sample size is forty, because we didn't have very long to do this. We started with attend government meetings, and left it intentionally vague, to see what the responses would be, and then we dialed-down to the other groups, and so there they were -- Most of them would say, oh, I'm a member of this recreational anglers club, or I'm a member of this charter captains of -- can't think of a single place. Pompano, right, which is not even a place on there, and then getting down to the federal meetings, and so there can be overlap between those sectors.

DR. HUNT: Let me ask -- This Kevin again, and I will follow-up with Jason. Jason, are you really asking why are for-hire -- For-hire seems to be the least trustful, the least participatory, and why is that standing out in the data, because it does look like that, on almost every question you have. They participate the least. They're the most distrustful. They are taken seriously, and it's their scores are highest on the agrees, and then everybody else, and I know it's a small sample size, but, you know, why -- You know, what's your perspective on for-hire being the ones who are the most disgruntled, because that's what I get out of this.

DR. SWEENEY-TOOKES: Yes, and thank you. That is definitely something that came across qualitatively. There was much, much more frustration amongst for-hire captains, and a lot of it had to do with frustration with how they were being treated, as far as if were more recreational or were more -- Sort of almost an identity issue, right, that many of them feel like they were bringing far more to the local economy than any commercial fisher did, and so why are they being lumped in with commercial for these purposes, and not being counted as recreational for others? I will say that, overall, the charter captains that we spoke to were by far the most frustrated, even if it's not coming through quantitatively. Qualitatively, that was really clear.

MR. WALSH: Well, that's interesting, that the group that's the most frustrated also seems to be the group that participates the least.

DR. SWEENEY-TOOKES: Well, if we go back to some of those reasons why, right, and, you know, they would talk about I'm doing two charters a day, and I'm getting up at 4:00 a.m. I'm going out, and I'm doing one trip, a half-day trip, and then I'm coming back, and I'm cleaning the boat, and I'm getting another set of clients, and I'm going out for a second trip that day, and so the sense of time constraint was much, much more present, and poignant, amongst charter captains than it was commercial and, of course, recreational.

DR. FRIMPONG: My question is, if fishers have the opinion that giving data will come back to hurt them, why would managers believe that the data they give will be unbiased?

DR. SWEENEY-TOOKES: I think that's the million-dollar question. If fishers are concerned about the data that they give being used to harm them in the long run, why would managers trust

the data that is given in a CitSci project, and I think that's the tightrope that the CitSci group is trying to walk, and a lot of this -- You know, if we go back to some of those key findings, and some of the recommendations at the end, you know, again, fully understanding that sharks are not managed by the council, right, but by HMS, choosing the topic that fishers feel the least concerned will impact them negatively, and building good collaborative, trust-filled relationships with those projects I think there's a lot of potential for, but you're right. If we're asking people to share GPS coordinates, I mean, yes, people are choking. That's unlikely to work, right? Kevin.

DR. HUNT: As a possible follow-up study, a managers' perceptions of the clientele study would be interesting in this too, asking them the same questions, to see where visitor versus manager perceptions are aligned or are not.

DR. SWEENEY-TOOKES: Julia, I think that goes on your list. Jason.

MR. WALSH: This is Jason. I had another thing I thought was interesting, particularly for the council. I thought I saw that 25 percent of rec said they felt unwelcome at meetings, and that seems high to me. It seems like a useful number to dig more into and try to put resources into because it seemed higher than commercial and for-hire.

DR. SWEENEY-TOOKES: Looking at that, and so I think a big part of us that many recreational anglers that we spoke with were not necessarily thinking about, or interested in, or had ever tried to go to meetings, and so this, in many ways, was almost a 75 percent going, sure, and I'm sure I would be welcome, right, and I would have to go back and correlate how many had actually gone to meetings, but there was definitely a reaction that would come through of, well, for what -- Okay, and sure, and these were only recreational leaders that held permits in snapper grouper and king mackerel and to fish in federal waters.

DR. HUNT: There were not people who went to a meeting and then said they didn't feel welcome, correct?

DR. SWEENEY-TOOKES: Although there were a few of those, and I can't remember, off the top of my head, if they were recreational or other fishers, but there were certainly some people that said, no, of course I didn't feel welcome, and I showed up at this meeting, or that meeting, and there were armed sheriffs standing in the back of the room, and so you would have to ask someone else. I don't know which meetings those were, but there were definitely people that said that was intimidating, and I didn't feel like I was welcome there. I don't think those were the norm, but I don't know what meetings those were. Jason.

MR. WALSH: I have another question. Sorry. Jason speaking. The question about fairness, and fair to everyone, I was curious if that was intentionally vague or what, because I think it could be interesting, in these fisheries, whether people are talking across sector, across geographic space, and so I was wondering if that came up at all, whether it was sector equity or spatial equity or -- I don't know.

DR. SWEENEY-TOOKES: It was intentionally vague, yes. You know, when you're trying to design certain instruments, and you have not a lot of time, and, that being said, I would have to dig back into the data. I made, there were certainly comments made around that, and sometimes they would say they're not fair, because commercial is getting this, and we're only getting this, and

sometimes it is not fair because, by the time we get our limits, they've already done this and this and this in Florida. All right. I would like to stop -- Christina has a question, and then I'm going to turn it over to Julia.

MS. WIEGAND: Just real quick, and I'm fairly certain this is in the actual body of the report, and it's just been a few months since I've read it, but, sort of, if you look from a commercial standpoint, and you looked at king mackerel fishermen and snapper grouper fishermen. Did you notice any differences in terms of levels of trust or willingness to participate between the two species? I'm thinking about the fact that there are a lot of snapper grouper species that are struggling, are overfished or undergoing overfishing, and have rather restrictive regulations on them, versus king mackerel, which is doing exceedingly well, based on the last stock assessment, and so I was curious if you saw any differences between those fisheries, and, if so, if any of that was driven maybe by stock status.

DR. SWEENEY-TOOKES: That's a great question, and, when we put this project together, you'll remember that we had conversations with all of you, saying we think we would like to just contrast two fisheries, and, you know, people are getting along really well around this one, and they're not so much this one, and so it was a really an intentional choice, and what we found, on the ground, was that many people who have a snapper grouper commercial also have a king mackerel commercial. Many people who have a snapper grouper charter also have a coastal migratory pelagic charter.

There was so much overlap between the categories that we would ask them, well, could you identify, and what do you do more of, and could you pick a team here, right, and we went back and analyzed it that way, and no, sadly, and so it is in the report somewhere. We were like, well, we thought that that would pan out as being a really substantial difference, but it wasn't. Adam.

MR. STEMLE: Thanks. This is Adam at the Southeast Regional Office. I actually had a follow-up question when we were looking at the questions on slide 12, I think it was. It was the I trust regulators to make the right decision, and I trust the science, and I was just wondering, and I might have missed this, if you had looked at the combination of those two responses, and so people that trust regulators to make the right decisions, but don't trust the data, and the percentage of people that don't trust the regulators, but do trust the data.

DR. SWEENEY-TOOKES: That's a really good question Adam. I kind of want to know the answer to that now, too. I will email Tracy, and I'll tell you what she says. All right. We're turning this back over to Julia to talk to us about now how to pull all of this information together.

MS. BYRD: The first thing I'll say is a big thank you to Rick and Jennifer and her team. They did a ton of work, with very limited funding and a very short amount of time, and I think their findings are going to be really helpful for our program, and so kind of what we did, after kind of they shared their findings with us, is we tried to think, okay, and so there's some things that our program is doing that may be addressing some of their key findings, but I know that there's additional things that we could be doing, and so we got feedback from some of the citizen science advisory panels, and the council, and so what I quickly wanted to do --

This was, I think, Attachment 4f, and so I'll just kind of quickly walk through this document, and what we're really interested in is getting feedback from you guys, or if there are certain kind of

recommendations, or activities, that our program can do to respond to these findings, and if there are certain things we can prioritize putting our efforts into.

Again, a small but mighty team, and lots of great information from this work, and so trying to figure out how we can best spend our time to kind of improve the program, and so, first, just going over this document, kind of the first table in it is -- It was a firehose of information that we got from Rick and Jennifer, and so we just put together a real -- Staff put together a real quick table, just kind of comparing kind of some of the things we found. I'm not going to walk through this stuff, but just kind of letting you know that it's there.

Second was we tried to compare some of these trust issues. Jason, I looked at your question earlier, and it looks like it should have been, at best, kind of neutral, or either an agree, like somewhat agree, rather than disagree for that question, and so I think that's just a mistake, but I will double-check check with Rick, and let you know, but that's my interpretation of looking through the tables and charts, and so, anyhow, that mistake is in this table, but just kind of looking at some of the trust questions and trying to compare things we learned through those.

This next table, which is very small on the screen for you guys, is kind of this is a comparison of the kind of research topics, or research priorities, and the table over here looks at what scientists and managers thought would be the most useful data. These two tables here look at what fishermen may be willing or interested to collect data on, and so the first is by sector, broken down by sector for fishermen, and the next one is by geographic region, and everything is color-coded, so you can see -- You know, the discard information in the scientist and managers table, it's purple, and that's where it shows up in these other tables, too.

When you're looking down within a column, if there's an asterisk, that says that the percentages are equal within that particular kind of column, and so we just tried to do this to help us zero-in where there might be overlapping interest between what the scientists feel would be a good data project and what fishermen may be willing to do and feel they would be interested in collecting data on.

Then, next, I just wanted to -- It's hard to know what you guys can see on these tables, or not, but you can pull it up on your screen too and so, generally what we did was we shared these findings with advisory groups and the council. Overall, people were really impressed, and kind of supportive, of the work that Jennifer and Rick did and their recommendations for the program.

They noted that our program is already doing a number of activities that overlap with some of those recommendations, and they suggested a lot of additional efforts that we could focus on, not just our program, but the broader council itself. There's tables that have that information.

They also felt that the findings helped really quantify concerns that they've been hearing from stakeholders and articulate some of the challenges for the citizen science projects in the marine fisheries world, while also highlighting some of the opportunities for the program. When I was talking to Jennifer and her team about the research, you know, a lot of this is tough love, right? A lot of it is tough love for the program, but, also, I think there are lots of opportunities for the program that were pointed out through this research, too.

You know, I think, when we talked about this, and talked about kind of some of these broader trust issues, those are issues that, you know, the Citizen Science Program can't deal with it alone. They're a much kind of larger issue that is going to require kind of much broader-scale work from the council in general, or the wider fisheries community, but it's important for us to be aware of and acknowledge this dynamic, with the work that we're doing.

Also, it was good to hear, from kind of Jennifer's work, that they felt kind of citizen science may be able to help address some of these issues, or work on some of these issues and, in general, folks kind of recommended our program doing -- Kind of keeping on with its overall approach and goals and objectives, continuing on with many activities that we are currently using to try to help address these issues, but then we should kind of listen to the recommendations from Rick and Jennifer and incorporate new ideas, as we're able and have capacity to do.

When we talk to the council, there's lots of different findings from kind of the researchers, and there are lots of different avenues that the council's Citizen Science Program could respond to, or adapt to, but there were three big areas that the council recommended us looking into activities.

One is the federal fisheries management is a black box. That's an issue that's not just a Citizen Science Program issue. It's a broader issue than that. One is this kind of fishermen are distrustful of management, and skeptical of science, and one is kind of focusing on some of the kind of information from kind of fishermen not feeling valued or heard.

One of the things that they really noted, both our advisory panels and the council, is that it's critically important to continue kind of this investment of doing outreach initiatives in fishing communities, not just for our Citizen Science Program, but there are other efforts, like Christina did port meetings for -- Kind of mackerel port meetings, and so going to meet fishermen where they are, and continuing that outreach, and continuing to build relationships. Folks, you know, supported doing similar research efforts in the future, you know, five to ten years down the road, that sort of thing.

The next table I'm going to show you, and I'm not going to walk through it in detail, but I just want to kind of explain what are there, and this first table is looking at -- So the way things are laid out, and it's hard to see on the screen, and it's probably easier to pull it up in front of you, but each of the key findings from Jennifer's team's research are kind of color-coded, and there's a circle.

In the table, there are kind of activities that our Citizen Science Program is kind of currently doing, or trying to do, that help respond to those kind of key findings and so, when there is a full circle, that means those are activities that our program is currently doing, or trying to do. If you scroll down further in the table, there are these donuts. If you see a donut, the donut is an activity that could be done in the future by our program, something that we're not currently doing, but we could currently focus on, and so there's this table for kind of Jennifer's work.

There's a similar table for Rick's work, and so, one, I'm happy to kind of walk through these tables in more detail. There's a lot of information, but what I thought might be more useful is kind of there are four areas that the council suggested we focus on, and so what I did, to try to make this stuff easier to look, at was -- For those areas, I put kind of the finding from Jennifer, Jennifer's team, on the top, that fishermen do not feel valued or heard, and I kind of summarized information that the council is currently doing, by the full circle, and then, by the donut circle, some

recommendations on additional activities that our program can focus on to kind of be refined based on that work.

I thought maybe this was an easier way to look on it, because you can see kind of what we're trying to do up here, things that we may be able to work on moving into the future, to see if there are any activities that you think are very important, or we should prioritize our activities on, either in things that we're already doing or things that we could be doing into the future.

Again, I know this is a little bit hard to see on the screen, and it's a lot of information at once, but, really, what we're hoping to get from you guys is helping us prioritize things to focus on. Again, a lot of great recommendations have come out of this work, and so we're trying to figure out three or four key things that we can focus on in the short-term and then other things that we may want to focus on into the future, and so I'm going to turn it back over to you guys. Confused face. What is it, Jennifer?

DR. SWEENEY-TOOKES: No, and I'm really excited about the slide that I'm looking at right here, but I'm having trouble finding it in the briefing book.

MS. BYRD: That's because I just pulled it together this morning.

DR. SWEENEY-TOOKES: It's really good. Is there more than one slide like this one?

MS. BYRD: There are three slides like this. It's on the office share. This information is what's in the tables. I just thought it would be helpful to put it together in a different way for the conversation.

DR. SWEENEY-TOOKES: Absolutely. I agree, and then do you want us to look at all three, to help you prioritize?

MS. BYRD: However you guys want to handle it. If there's something here that you think are helpful, if you want to kind of -- I'm happy to flip through all of them, or we can wait until kind of Hadley sends it around, so you can have it and look at it in front of you on your computer, and I can do that. However you all think would be best to move forward.

MR. WALSH: Maybe go one at a time, because I feel like, by the time the third slide hits -- IF all three are done -- I wasn't saying that I wouldn't remember the first slide by the third slide.

DR. SWEENEY-TOOKES: Can we have just a super-quick preview, so we understand where we're going, and then we can come back and talk about them one-by-one, and would that be all right?

MS. BYRD: Sure, and this first one is kind of fishermen not feeling valued or heard, and, again, I don't know if it's helpful for you to quickly walk through these, since you probably can't read them from up there. Some things that we're doing to hopefully help address this is we're trying to kind of increase the outreach initiatives that are within kind of fishing communities, working to build relationships with key organizations and stakeholders. We encourage, and are starting to see, some of our citizen science project participants who are engaging in other council-related

activities, like public comments. We're trying to encourage them to kind of share their kind of opinions or perspectives with the council at-large.

This broader council outreach effort is, you know, again, continuing efforts like port meetings, or the council is getting ready to do something called Lines of Communication. Again, it's outreach in fishing communities, instead of having fishermen come to a formal council meeting. You know, more activities that are focused on going into communities and meeting people where they are.

Then, you know, what we really try to do within the program, with all of our communications, is really emphasize that we're listening to participants' perspectives, and we really appreciate their knowledge, and then sharing their knowledge with us. You know, the fishermen in our programs know a lot of things that we don't know, and so we're learning from them, and to try to emphasize that through our kind of communication and messaging.

As far as kind of recommendations for things we could do in the future under this kind of header, one is people suggested making kind of more of a formal acknowledgement of trust issues between stakeholders. I mean, I think fishermen and scientists and managers all know that there's sort of trust issues amongst all the different stakeholder groups, and somehow formally acknowledging that, and I don't know exactly what that would look like, and then I think it's important -- People noted that it was important for our program to kind of acknowledge the experience, and, you know, how much fishermen know, and think about that in context of how can we use citizen science to help turn their knowledge into data streams that can feed into decision-making.

Another thing that people noted was not only, you know, when we're communicating about the program do we need to say what it's doing, what it does, summarize data that it's been kind of able to collect, but also to personalize the program's story and make sure that it can tie back to stakeholders.

An example of that was, you know, the FISHstory project we had came to be because of a fisherman named Rusty Hudson, and it was him who brought his fishing photos to meetings that helped spark an interest in that project, and, again, kind of viewing projects through the lens of this research, thinking about how projects amplify fishermen being heard, continued investment in outreach initiatives, and I think the last three here are -- They kind of fit under the heading also of this kind of fisheries management is a black box.

You know, expectation management is one issue. There's limitations of what a council can and can't do, and I don't think everyone knows those limitations, and so making sure it's kind of clearly acknowledged, and kind of there's some transparency around that. One is acknowledging kind of fishermen viewpoints in council communications platforms, and so even if, you know, a decision may not be what fishermen were supportive, in some kind of aspects, kind of explaining why the decision was made, but acknowledging that folks have different points of view.

Then, also, another idea that was mentioned was trying to quantify opportunities for engagement, and somehow tracking that over time, to show that folks were being -- Kind of engaging in the process over time, and kind of highlighting the different types of ways that people can engage, and so that's a lot of me talking. Hopefully that gave enough time for you guys to be maybe looking at this on your own screens, and so that's kind of the first one.

The second one is focused more on this kind of fisherman distrusting management and being skeptical of the science used in management, and so, again, there's some overlapping areas here. If you look at those charts in the Word Doc, or the PDF document I showed, some of the rows have multiple-colored donuts, or multiple-colored circles, and so, again, this kind of distrust and skepticism of science, and it's increasing outreach initiatives.

Another thing that we're really trying to do in the program is making sure we're clearly communicating about project goals and how data could or could not be used, and potential impacts, trying to keep that expectation management front of mind.

One thing that makes it really challenging is we don't know what the data is going to show, and so we don't know what the impact of the data will be, and so that can be a challenge for us. Another thing that we're trying to do is focus on projects that are filling data gaps and meeting identified research needs, and kind of fishermen's ideas kind of fall into helping us develop our research priorities.

Then, also, we know that there's a lot of frustration around some of the data used to make decision, and so we try to highlight kind of our projects as an opportunity for folks to provide -- To share their on-the-water knowledge and expertise, and then things for the future is, you know, again, outreach initiatives.

One thing, and Jennifer kind of highlighted this, is project selection is really important. Try to support win-win projects. I think that's more challenging to put into practice, because, again, we don't know the outcomes of a lot of these, kind of the data that are going to be collected, and how it may be used, and, also, one thing we heard from fishermen, when we were developing the program, is they wanted to collect data that can be used to inform decision-making, and so trying to find the right balance of what a win-win project would look like is hard.

Then, again, focusing maybe more on the recreational sector for our current projects, for a lot of the reasons Jennifer already went over. Trying to encourage the use of program ambassadors, and that's something we talked about in kind of some of the earlier presentations on citizen science, and then another thing that came up is to try to consider more neutral parties for partnerships, and so maybe, you know, developing a project where the council was kind of leading things could make for some challenges, and so partnering with more of a neutral party, whether that -- Maybe that's a university, or an academic person, or a Sea Grant person, or something like that, and that may be helpful in this area, too.

Then the last one is just fisheries management is a black box, and, again, a lot of this is broader than just our program, things that we can do, but, again, continuing these outreach efforts within fishing communities. One thing that we try to do in the program, and there's some great examples from some of our Release participants kind of reaching out to Meg.

Kind of whenever anyone has questions about our project, or even broader management issues, we do our best to address them and provide information on ways that they can share their perspectives with council members directly, and that sort of thing, and then things that can be done in the future is really encouraging more people to participate in the Marine Resource Education Program, trying to distribute or make more kind of fisheries management or council 101, MSA 101, type outreach

products that could be shared within the community, and then consider kind of posting mini-seminars or videos that would share information on these sorts of topics as well.

Those are just kind of a summary of three of the findings that the council suggested that we focus on, and that's a quick walk through of all three, kind of highlighting some things that we're doing and some things that folks suggesting we can do.

DR. SWEENEY-TOOKES: Thank you, Julia, and, Julia, I've expressed this to you directly, but I wanted to say that the amount of work that you've put in, and the really good, insightful way that you took the findings from both of those reports and created this document, and the work that you've done on this, is excellent, and heartening, as a social scientist.

We often don't see the results of our work go anywhere, other than into a journal, and then maybe people read them, and so just know that my team is extremely grateful for the work that you've done with all of this, and so I just wanted to say that before we get started in there, and, if you guys haven't had a chance to look carefully at this beautifully color-coded document, which brought my nerdy heart great joy, please do. Comments for Julia, or questions, or suggestions? Chelsey.

DR. CRANDALL I just had to observe that that was such a perfect thing to say while the do not feel valued or heard slide was up, because it's a great example of what it looks like to feel valued and heard. Like, hey, we heard what you found, and here's what we're doing with it.

DR. SWEENEY-TOOKES: We also -- These slides have been shared in several different meetings since our council presentation, and they never get the discussion that they deserve, and so Christina has generously agreed to put our last agenda item until tomorrow morning, so that we do have the rest of this period to discuss this, and so let us chime-in and talk with Julia about this.

MS. BYRD: I will say there's a lot of information in these color-coded tables, and so -- But I'm sure there's wonderful ideas that no one thought about, or that haven't been recommended to us, and so, if there are things that you think we should be doing, that aren't on the list, we're all ears for new ideas, too.

DR. SWEENEY-TOOKES: Jason.

MR. WALSH: This is Jason. Exactly what I thought was going to happen happened, and I am now thinking of the last slide, but I was thinking that I've been hearing folks asking for new ways for us to reach out to them, and kind of meet where society is, in the modes of information, gathering and whatever, and one that has come up a few times is podcasts. I'm not sure if that's something you guys have thought about, with all of your extra time, to do, to produce a podcast, but just throwing that out there.

MS. BYRD: Yes, and I think very good thought. I will say that Meg has actually been on a podcast with Angela Collins from Sea Grant, and it was one of Chris Woodward's podcasts, and they spoke about best fishing practices and the Release product, and so I think that's a great idea, and not something that we've tapped into that much, but thanks for that suggestion.

DR. SWEENEY-TOOKES: So what we're going to do, in just a moment, is to look at each of these slides one by one and weigh-in, as an SEP, on which of these ideas listed next to the donut

we think, with our experience in the region, would be the best, or the most fruitful, but, Scott, you've had your hand up, and I'm sorry. Please speak.

DR. CROSSON: I'm not sure where to insert this in. A comment overall, and, I mean, this is a lot of presentations at once, but the thought that occurred to me, just watching all of this, is that you don't just have a mistrust issue from the fishermen's perspective, but you obviously have a mistrust issue from the scientists' perspective, right, and so, for a lot of us that went through statistical training, it's sort of hammered into, from the beginning, the importance of getting a properly random sample, getting a stratified sample, and I think, earlier, there was sort of like an inverted bell curve, in whatever presentation was being shown, about science's perspective, which was really promising, but it was also like really -- You know, it was either at the top or the bottom of everybody's listing.

I think I follow that myself on some days, when I think about citizen science, and so I think one of the issues that's going to come up with this program is that the scientists don't want to touch it unless they know it's going to meet the scientific standards, whether it's the way that it's gathered or the way that it's sampled, and so every program needs to have that from its inception, thinking about how it's going to address that issue, because that's the first thing that's going to get lobbied at it by any scientist that's asked to include this into a data stream for some kind of management-related scientific project.

MS. BYRD: Thanks for that, Scott, and so I think that's, you know, a really good point, and I think we're trying to do some -- You know, the program is trying to do that a little bit, by having these design teams help develop projects, which will hopefully include a data end user, volunteers who want to collect the data, a variety of expertise.

One thing I will say is, you know, citizen science can be a really powerful tool, but it's not the right tool for every research question, and, a lot of times, there is a tradeoff with citizen science projects, where you may have to bend a little bit on statistical design, or things like that, in order to get kind of more of the data gap.

If you don't have any data in this area, maybe it's beneficial to kind of bend on maybe the scientific rigor of the design, or not to collect twenty-five data fields, but to collect four data fields, with citizen science projects, and so I think that's a really good point. I think there's some give or take there, but, you know, some issues aren't going to be appropriate for citizen science to be used as a tool, but I think there are many that are.

DR. CRANDALL: I was going to move to this slide, and I'm pointing, like everyone can see me. It's Chelsey. I think that you all have done a really thorough job, and so I think you've done a really thorough job of like digging into all of this and connecting it. I wanted to ask if you could remind you me what was at the root of not just valued or heard, because I think that helps us think through what's the most important things to do to address that, because I can say, in spaces --

You know, this point at the bottom of it's important to demonstrate the story, you know, it's not just about the activities we do, but it's about the message we include in those, and having that meaningful connection between like how the decision was made, much like we just talked about with looking at the social science data, that here's the story of how all of that became the actions that we have, I think would be important to incorporate into all of these activities we have listed,

but I wanted to make sure there weren't other things that would be -- This is a really long question. Helpful to know in thinking of, you know, what's the root of why they don't feel valued or heard, and here I am putting Jennifer on the spot.

Something we continue to reflect on too, that might help us think through what's the best way to address that, and is it that feeling that they contribute, and it doesn't go anywhere, or is it that they don't feel anyone is reaching out to them? That would help me think through what might be a good priority.

DR. HUNT: This is Kevin, and, along with that, because I'm looking at quantitative data, and I'm kind of reanalyzing those things, based on Jason, and, really, those last three statements of South Atlantic fisheries are generally healthy, fishermen trust scientists to collect data that are representative of their fisheries, fishermen trust managers make sensible fishing regulations, and all those were either a plurality or majority disagreed with those three statements, and, really, that can get at, you know, why, and that's what we need to get at.

What does "generally healthy" mean to our fishermen, and to our scientists, and why are they scored so low in Dr. Bonney's study, and those last three statements people disagreed with, and, to me, that's the root of what we need to find. That may help us understand the trust issues as well.

DR. SWEENEY-TOOKES: Christina.

MS. PACKAGE-WARD: First of all, all the work that you all have done on this is awesome, and I don't know if I'm the Christina you called on or the other one.

DR. SWEENEY-TOOKES: It's all you. You're doing great.

MS. PACKAGE-WARD: I guess I just wanted to say -- Like to acknowledge the fishermen viewpoints item. I think -- I mean, if it's not something you all are already doing, and, if it is, I'm sorry if I've missed it, but the Gulf Council started reporting back on public comments, and they basically do this like sentiment analysis, and Emily Muehlstein is the one who has been doing it, and I feel like it's really awesome, and I don't know if it makes people feel heard, but I would think like it's an awesome step toward that, that could be easy to do if you're not already doing it.

DR. SWEENEY-TOOKES: Thank you. There is a small sidebar clarifying what that is, because they liked the idea.

DR. HUNT: I don't know if she's talking about AI. I know that's kind of AI is doing the sentiment analysis, like open-ended comments, and like, you know, to get at some of the qualitative-type of responses to that, and like sentiment analysis is like Amazon Prime, and you look at the reviews, and it has summarized 5,000 reviews, and is that what she's talking about, because that's how AI is using the term for analyzing those kind of qualitative data.

MS. WIEGAND: I guess I'm familiar with how Amazon AI summarizes reviews, and what -- Christina, SERO Christina, feel free to jump in, and this is Council Christina, but what Emily and Lisa at the Gulf have been doing is they run code in R, that goes through input they got through their Fishermen Feedback tool, and it pulls out words based on sentiment, to tell you whether or not, you know, what was written was primarily negative, versus primarily positive or neutral, and

it will show -- It can almost do sort of like word cloud, with, you know, how many negative comments were made related to this word specifically.

I know one of the challenges, and I am not at all AI experienced, but one of the challenges with doing this for fisheries is that there are words that are in like sentiment lexicons that are negative in normal speak, but are positive in fisheries speak, and like “shark”, for example, might come up as neutral, but we know, in fisheries, “shark” is a negative term, oftentimes, and so Lisa and Emily have actually done a really good job of sort of modifying their code to address some of those changes, to make sure that the sentiment analysis that they’re pulling out is, to the best of their ability, reflective of fisheries.

DR. HUNT: But that’s exactly how AI is building it, and so their R program is kind of doing that, but you need somebody who is knowledgeable, and so, you know, pulling those terms in, and so what they’re doing is kind of equivalent, you know, to AI, doing it on your own.

DR. SWEENEY-TOOKES: Well, it sounds like it’s modified, and like they’re using AI, yes, but in a very modified way, with their own expertise shaping it. Christina Package-Ward.

MS. PACKAGE-WARD: I think it tries to like summarize the comments too, but, I mean, obviously, like that’s a huge undertaking for like every single thing, to summarize all the comments, and so I don’t know, and I’m sure that the sentiment analysis is a way to quickly put something together, but, yes, obviously, that has problems, too.

DR. SWEENEY-TOOKES: Thank you. Other thoughts, or questions? So, if we came back to this original question then, or, well, one of our original questions, SEP members, looking at the slide with the yellow circle and the yellow donut, are there certain things on here that any of us would, based on our expertise, amplify as being something that it would be lovely if it could be tackled earlier, rather than later, or any things that we think are not as important? We’re here to help the committee, or help the CitSci folks, you know, sort of narrow this down a bit.

MS. BYRD: Yes, and, I mean, I think so, or, if you think the things we’re working on make sense, and to continue doing those, and that’s good, too. Again, I think, you know, when we have -- When we have presented this information in the past, I feel like it’s like a firehose of -- Like it’s a firehose of information about Rick’s presentation, and Jennifer’s presentation, and then what we did with those presentations, and those huge kind of laundry lists, and I think, you know, in general, the feedback we’ve gotten is keep doing what you’re doing.

If you have the capacity, here are other things you can work on, and we want you to focus on these three key finding areas, and so do what you can in these three areas, and we haven't gotten -- We’ve gotten some kind of specific information, but a lot of it is do what you’re doing, and then add some of these new things in as you’re able, and so, if that’s what you guys kind of agree with, that’s great, too.

I think we’re just looking to different people, who have different experiences and expertise than we have, to see if you kind of have different perspectives on things that you think it would be good for us to focus on with our limited capacity.

DR. CRANDALL: Chelsey, again. Then I would say, for me, keep doing what you're doing, and, if you can incorporate -- I would say the elements of story that we just talked about, and, if there was any space we could do, I -- If we haven't already, or someone hasn't, I would want to ask the fishermen, and fisher folks, what they think would make them feel heard, and valued, and that might help us in this endeavor, too.

DR. SWEENEY-TOOKES: Thanks, Chelsey. I would also, especially in light of Scott Crosson's comment -- The second item jumps out to me, that it's important to acknowledge the experience and knowledge of fishermen, and how can CitSci turn their knowledge into data streams, and then modify that, right, and how could it turn their knowledge into data streams in a way that scientists will be comfortable with the methodology and the structure of the project, right, and trying to find that sweet spot where fishermen experience and scientist investment, or trust in the data, would meet.

MR. WALSH: This is Jason. Something I grapple with a lot, thinking about what you just talked about, which I agree, is because these fishers have incredible experience and knowledge in a methodology of fishing and data collection that's different than typically what we use, right, and that's like a fishing maximization problem for them, and how do you use that into the management structure that we have with all of our other data streams? I don't have a great answer for that, but it's really -- It's really hard to align -- To think of ways that we can align with their methodologies sometimes, and so that's just like an unhelpful comment, but that's what I've got right now.

DR. SWEENEY-TOOKES: I think you've nailed the exact problem, right, is it's two very different approaches, and so I almost want the scientists to say then, knowing that this is the approach used, right, and, like you said, maximization, what sorts of data could we accept from fishers, knowing that that's their approach, or their strategy, because, for things like data-limited species, it wouldn't matter as much, right? I mean, it would, in some cases, but --

MR. WALSH: My mind always goes to like discards, right, recreational discards, and it's like what we need more information on, things that it's very difficult for us to get that information, and fishers have that information, and so it's something that we can use citizen science for.

MS. BYRD: So I can -- A little bit on how we tried to identify projects to pursue, because we're looking for gaps. We're looking for holes in data, where there aren't other data, generally, and where citizen science may be able to supplement what's available, or bring data where there aren't a lot of information available, and so the Release project is focusing on gathering information, particularly on the length of discards, and information that can help better understand how many of those released fish survive, and so that's a big data gap, particularly for the private recreational sector.

The FISHstory project, we have a few stock assessments in our region that begin prior to the 1970s, and that's before we had any recreational and for-hire data, and so FISHstory is trying to provide some information about that historic fishery that can hopefully inform kind of that historic information that gets put into an assessment, and so, you know, we're trying, in some ways, to be strategic about the projects we develop, for some of the reasons that you just mentioned, Jason, is we're trying to fill holes, small holes, with at least some of the initial projects we have.

DR. SWEENEY-TOOKES: So Chelsey has weighed-in and said she thinks these are good goals to have, and carry on the good work. Other SEP members in the room or at home have suggestions, approvals, finger claps? If you're at home, we're just skipping to the next green circles and green donuts, and we're looking for any feedback, or any thoughts, on this slide.

DR. CRANDALL: I think this looks good. I think you've got a good list there. I think the win-win is always a good goal to have, and we talked about that. It's something to always keep in mind, recognizing how complex that can be, but I think good list.

MR. WALSH: I think win-win projects are great. We just often have different time horizons than the public, I think, which is where it feels like a win-lose, where they provide data, and then there are more regulations in the short-term, and so working on messaging that this is a win-win, even though it is not an immediate win-win, and, obviously, that's a fisheries management problem always, but messaging that more articulately, and explicitly, might be helpful.

MS. BYRD: Yes, and some of what you're saying is expectation management, right, too, a little bit, and the messaging for that sort of a thing.

DR. SWEENEY-TOOKES: I want to emphasize the last thing you have here, and, you know, Bryan and I did the field work on our part of this project, and we had many car hours between Key West and Cape Hatteras, North Carolina, and one of the things that came up, over and over, is, if management is already a black box, then it doesn't really matter who is showing up to have the conversation, in a lot of ways, and so knowing that, you know, council staff is this many, and CitSci council staff is two, or three, right, and really reaching out to those neutral parties, working with the Sea Grants, working with the Fish and Wildlife, and working with those partners allows you to maximize the work that you're doing, and also to build on the established personal relationships that those groups already have.

I see that as a win-win for you all as well, you know, maybe doing more of the designing and the orchestrating of the projects, but then really relying on those neutral parties, the universities or state agencies or whatever it is, will help you maximize your reach.

DR. CRANDALL: Also on managing our expectations, because I know we all know this, but trust does take a really long time to build, and so making sure we keep that in mind too, that this is a long journey that we will all be on together.

DR. HUNT: It takes one slipup to lose.

DR. SWEENEY-TOOKES: Yes, and it's hard won and easily lost. Other thoughts on this green slide, the circles and donuts? Any that you -- Hold on. I thought we moved to blue. What happened? Sorry. The blue slide, blue donuts and blue circles. Any thoughts or suggestions? I will say that many people mentioned short videos, or infographics, in our field work. I just don't understand how it works, and isn't there just like a chart that I can look at?

DR. CRANDALL: I think it looks good, and I think, to me, this is important, but -- Maybe sooner to be tackled, easier to tackle, and kind of -- I don't know what I'm trying to say, but I think, if trust is rebuilt, we don't always even need all of this, because what I've heard, right, is that, if you have trust, you don't have to know all this stuff, and you just trust that it's getting done in way

that, you know, is fair, et cetera, and so I think the trust can be super important. It's clearly the end of the day. Sorry for fading out.

MR. WALSH: This is Jason. I mean, I agree, but I think we're in a place where there's so much distrust that transparency is like a way towards trust, or, to me, that seems like one of the easiest ways towards trust, is explaining to people, over and over and over again, what's going on, until everyone knows, and so I think it's -- Personally, I just think that it's a good first step, is trying to have some small videos, or something, more material out there.

MS. BYRD: I was just going to say, with the council's Lines effort, and, again, this is kind of broader than the council's Citizen Science Program, but, for the council's Lines of Communication effort, there are a couple of staff members, Allie and Nick, who are working to develop some kind of materials for this sort of thing, and so some of those things are underway by people that aren't CitSci people, but people who are council staff.

DR. CRANDALL: An additional thought, as we're thinking of the trust landscape and, you know, the role of information and understanding and how people feel about things and how important the messenger is too, and how sometimes it's not just about understanding. You know, having transparency in the process is super important, but also knowing who the people are, knowing faces, you know, seeing them as other humans that are working on these things, and care about these things too, and so, if we can incorporate that in many of these things, I think that would be helpful.

DR. SWEENEY-TOOKES: It is five o'clock, and so any last thoughts now for Julia on this topic? I'm glad we got to dig into this much deeper than we have in any of the other times you've presented this and I've been there. All right, and, tomorrow morning, I'm very sorry, SEP, but we will need to start at 8:30, instead of 9:00, and I apologize. We wanted to make sure that this document got the feedback that it deserved, based on its quality and time invested and the value of it going forward, and so, if we can please all be on the webinar, or in this room, at 8:30. Thank you so much for all of your thoughts and your time today. I appreciate you all.

(Whereupon, the meeting recessed on April 14, 2025.)

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APRIL 15, 2025

TUESDAY MORNING SESSION

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The Social and Economic Panel of the South Atlantic Fishery Management Council reconvened at the Town & Country Inn in Charleston, South Carolina on April 15, 2025, and was called to order by Dr. Jennifer Sweeney-Tookes.

DR. SWEENEY-TOOKES: Good morning. Good morning, SEP. It is 8:30. Thank you all for coming half an hour earlier than planned. I apologize for that. I will keep a much closer track of the time of our scheduling today. We have a full morning, and so we are going to jump right in.

We are starting off today with an item that we delayed from yesterday afternoon. We wanted to make sure that we had a good, vigorous discussion about the citizen science work.

Thanks to Julia and Meg for being here and presenting, and thanks to the SEP for all of your good ideas and great feedback, and so we're going to kick off today with Agenda Item Number 5, the Eighth National Meeting of the SSC, and Christina will be presenting for us. Before she starts, if I could just have everyone take a quick look at the notes page, and I would ask you all to take notes, please.

John and Christina are kindly taking notes for us on a Google Doc as well, but, again, everyone hears different things, and so it's important for all of us to be taking those notes. That being said, Christina has provided us a very, very good list of questions, and we just side-barred and discussed that we don't need to necessarily answer each one of these questions, but, if all the SEP could take a quick spin through those questions, and just keep them in mind as she's speaking, to guide our discussion at the end, but not necessarily in an attempt to answer each one of those, and we'll go through them in chunks, and she will guide our discussion masterfully. Excellent, and so turning it over to Christina to present on the SSC 8 National Meeting.

EIGHTH NATIONAL MEETING OF THE SCIENTIFIC COORDINATION SUBCOMMITTEE OF THE COUNCIL COORDINATION COMMITTEE REPORT

MS. WIEGAND: Thank you so much, and so this meeting was held last fall, and the SSC received an update on it at their October meeting, but this body hasn't gotten a chance to discuss it, and there were some specific social science and economics topics, and so we thought it was worthwhile to bring a quick report to this body.

The theme of the SCS 8 meeting, or the National SSC meeting -- For those who are unfamiliar, this is a group that the Council Coordination Committee organizes, and so it's representatives from all eight of the national SSCs that come together to have discussions, and the purpose of this meeting was to talk about application of ABC controls, specifically to help provide some guidance on how to support management using ABC control rules in really dynamic and changing environments, which has been challenging, given the degree of change that's been happening, and so there were a couple of sub-themes.

The first is advancing ecosystem science and assessment to inform control rules in dynamic environments, applying social science to achieve goals, and then adaptations of reference points and control rules and rebuilding plans to changing environments.

So, as you may have expected, we're going to be talking about the application of social science with this body, and so I wasn't at this meeting, but we do have a couple of people in the room who were, who could provide a bit more context, and there is a report included in your briefing book, but, before we get into the actual recommendations that came out of this sub-theme, I do sort of want to let you know what presentations people were given in advance, and then what questions they were given for discussion, so you have some context of what they were asked to do at this meeting.

There were a number of case study presentations for this sub-theme, the first being the West Pacific application of their social, economic, and environmental management. Our own Andrew Ropicki gave a great presentation on using catch share market information to inform management.

There was a presentation on sablefish, which gave information on unraveling the quandary of a climate boon and -- Then there was phenomenal presentation about using local ecological knowledge to advance ecosystem fisheries management in the Caribbean. If any of these sound of interest to you guys, it's certainly possible that we could get these presentations given to this body at a later date.

We were hoping to get the local ecological knowledge one given, but, unfortunately, timing did not work out, and so members then broke out into breakout groups and were asked to discuss how the councils and SSCs could balance the tradeoffs between resilience, profit, and human dimension objectives, specifically with implementing risk policy, informing ABC control rules, and thus, ultimately, catch advice, and providing information other than catch settings specifically, and then they were asked to identify actionable approaches for using social science, and then identifying information gaps and discuss how management might proceed without that information, and so, with that, there were sort of four key recommendations that came out of these discussions with all of the breakout groups.

I thought what we could do is sort of go through them one by one, and then I've got a series of questions about each. Again, like Jennifer noted, we don't necessarily have to specifically answer each one. They were just meant to sort of help guide discussion, so I wasn't just leaving you all with a recommendation and no idea for --

The first challenge identified was, of course, data limitations, something we're all very familiar with, and their recommendation was to address information gaps and address the constraints of data confidentiality issues, and so the question I really have for the panel is there are a ton of information, and our social science staff is fairly small. It's just me and John Hadley, and so, in the interest -- I'm sorry, and our fledgling social scientist, Dr. Chip Collier. Excuse me.

We're hoping we can get some thoughts from you guys on what you think the most significant data gaps are, in terms of the South Atlantic social and economic environment, and if you maybe know of any data sources or ongoing research that is working to help fill those gaps, but, if you had to pick sort of this is really the key thing that the council could try to hone in on, and this could really help their management efforts. (Part of Ms. Wiegand's comment is not audible on the recording.)

DR. CRANDALL: I will just break the ice and say I'm just processing, because there's so many things we could say here, and half my brain wants to do like a brainstorm of them all, and then prioritize, and so I'm trying to do that in my head, and so the silence is not because we're not excited about this. I can say I'm just processing, and so did that break the ice? This is Chelsea, by the way.

DR. SWEENEY-TOOKES: So, in order to let those questions percolate in your minds, we're going to go ahead and go through the rest of the slide and then come back to each of these, just to tackle them one-by-one.

MS. WIEGAND: All right, and so the next recommendation was related to sort of regional differences, of course, with changing environmental conditions. There's a need to understand the regional differences, and so the recommendation was to engage and formalize the use of social science, actively responding to public testimony, fostering relationships and trust, something we talked a lot about yesterday, using local ecological knowledge and cooperative research.

Some of the questions I have for you to mull over are how can the council better illustrate the ways in which they are utilizing public testimony in the management process, and, sort of related to that, are there things that need to be done to improve that public testimony process to better illustrate how that information is being used? Then how can the council encourage participation in the public testimony process? We talked a lot about this yesterday, and so I think a lot of the information you all provided yesterday will fit, and it sort of also applies to these questions.

The next recommendation was to address capacity limitation, and so make sure there's really a lot of coordination between entities doing this kind of work, so that we're properly using available staff resources, making it clear how the SSCs can contribute to those processes and utilizing cooperative research, and so my question here is, you know, are there opportunities for council staff to better coordinate with external entities that have not been explored?

I know, when we're talking about external entities, it's a lot of you guys that we're talking about, but are there other ways that council staff can better work to collaborate, and then, given limited staff resources, how can the council capitalize on sort of non-traditional sources of social and economic data? I will say I put that question in there intentionally as foreshadowing for the presentation I'm going to give next, and so you don't necessarily need to answer it now, but know that we will be talking about how to use not-traditionally-collected information to inform our understanding of the social network.

Then, last, but not least, they recommended ad hoc uptake, and so strategic guidance defining those onramps for social scientists, making sure everything is aligned, the timing of science with timing of management decisions, and adapting the decision-making process to incorporate more social science, which I think is something we, as council staff, are very passionate about.

One of the questions I have for you is how can council staff better illustrate the role that social and economic data play in the analysis of management actions to the council, and I would say and to the public, and how can we make that use more explicit, and then does the SEP feel that they need -- Do you guys feel like you need more information on how council members understand social science, and what they would like to receive from this panel, and so those are the key recommendations. I can go back to the data limitations one, and we can sort of bounce between them, as a conversation flows, but that should give you an idea of the broad input we're looking to get from you guys.

DR. SWEENEY-TOOKES: Thanks, Christina. That was a great summary. If you are at home, we understand that the audio is very bad again today, and people are scrambling around the room trying to fix that right now, and so we are really sorry about that, and hopefully we can get that improved, but, yes, as Christina was saying, these are a series of really good questions, and so if we could take them maybe slide-by-slide, and, even if we're not maybe proposing fully-developed ideas, at least, as Chelsea was saying, start throwing some ideas out there, right, and start throwing some stuff at the wall, and have a starting place.

Going back to data limitations, and you've had time for that to percolate. What's coming to mind? What does the SEP think are some data limitations that exist for us, or ways to start solving some of those? I'm going to go with Kevin and then Chelsey.

DR. HUNT: This is Kevin Hunt. I'm kind of like Chelsey. This is a lot to process, without a list of what exists and what is currently being used, and so, you know, is that in a report? Is that in the report that I, obviously, didn't get to?

MS. WIEGAND: So there is information in the report about what's being used in different areas. It's been a while, but we've also given presentations to the SEP before on what information we utilize in the management process, and the decision-making process, and it's been a number of years since we've done that, and so your comment makes me think that it might be wise for us to sort of update that list, and present it to the SEP, to provide you guys a bit more information what we're able to use in the South Atlantic specifically.

DR. CRANDALL: Yes, and that kind of connected to where my thinking was going. Chelsey, again, but that I connect this with the later questions about how the council makes decisions, and what they're looking to receive from us, and wanting to think through those things together, and, you know, what are, from their perspective, the things that they most need to make the decisions they need to make.

I also recognize that I did have all of this ahead of time, and could have thought about it beforehand, and so that's also on me, but, yes, I think that would be helpful. I'm just -- I'm still feeling overwhelmed by the numerous ways we can go with what the most important information is.

MS. WIEGAND: Okay, and so it seems like what I'm hearing is maybe this is a conversation we should have with the council, to better understand what they need from this panel, and what they feel like they're missing, in terms of social science research, to then bring back to this body to start talking through it.

DR. CRANDALL: I think so, but could I add to that kind of as a co-creation, because I would love to have that as a dialogue, of then maybe social science things that people aren't aware of that could help make a decision, that social science perspectives could offer up, and this might be too much. This might be -- But it seems like that could be fruitful of like, hey, what information do you need, and use, and, hey, there's this other information we think would be important, and would that be something that would be valuable to you in trying to navigate these decisions, and how does this all fit into what you can use in the federal process.

DR. SWEENEY-TOOKES: Kevin.

DR. HUNT: Kevin again, and, yes, that said, I'm going to jump to Number 8 on your list. Every one of these questions could be a subtheme at a meeting, and that may be more fruitful than some of the presentations that you guys have given there, where you see examples, where you lay these things out, and so, you know, just food for thought there on the SCS 9 meeting.

I'll start on Number 1, something that I've just been hearing of recently, with people having to justify their existence, and I've seen a lot of requests for economic impact data at the county level.

I know Southwick and Associates produces some work on state-level and congressional-district-level economic impacts, and that's available on their website, but having enough data down to the county level, which is important within the state, would be useful. I don't know how useful that would be, you know, to the council, but I think, you know, that finer detail may help, especially in these coastal communities.

DR. SWEENEY-TOOKES: On that same slide, you know, something that comes to mind, perhaps because of our discussion yesterday, is there is so much good work that is happening, that it's very hard to keep track of it, and I hesitate to say, well, the council could, or the council staff could, because you don't need one more idea on your plate, but I can dream of a situation wherein there could be just a landing page of ongoing projects in the region, where any of us who know this research is happening, and it's funded by so-and-so, and here is their research goal, and here's contact info for those people, and it would give all of us maybe a place to be able to see, oh look, people are addressing this gap that I was worried about, or that gap I was worried about, or, oh, that's great that they're doing this specific work, but do they understand that creates an even bigger data gap here, and maybe that's a gap for me to address, but, yes, and not saying council staff should, but I dream of a day wherein we could have some sort of a thing like that.

MS. WIEGAND: I couldn't agree more. There has been a sort of movement, and not related to social science, but sort of housing some information on the CCC website, related to like job posting and things like that, that different councils can post on, and so there might be something in the future that could work for social science research.

I will say there used to be a social scientist and regional fisheries management group through the CCC, that sort of, during COVID, became a little bit defunct. The CCC, and I'm so sorry, is the Council Coordination Committee. It is the body that represents sort of all eight of the councils will come together, and that is helpful context. I apologize for using too much acronym soup, and so there used to be like a social scientist group, that had social scientist representation from all of the regional councils, as well as the federal agency. That sort of went by the wayside during COVID, but it sounds like maybe that is a body that, if revived could start brainstorming some ways to accomplish what you're talking about.

DR. SWEENEY-TOOKES: I love that idea, and I would even broaden it, and it doesn't necessarily need to be only social science. It could be that there are natural science projects in a place, or a region, where social scientists might then see that project and think I could add something really beneficial to this particular project, and so even more broadly than just social science. Chelsey.

DR. CRANDALL: Sorry, and I'm talking a lot this morning. I mean, first, I'm clearly hesitant just to answer the question about significant data gaps, because I know that would just be like this is what Chelsey thinks, and, you know, really we could have like a three-day workshop of experts, to really tease this apart, but, to the point about connectivity, that I know we talk about -- There's a question later, and we're kind of touching on now, and we're having this conversation in a lot of different spaces across social scientists in Florida, across state and federal agency social scientists, and it's -- A lot of them are centered on the wildlife side of things.

As I'm thinking about it, I don't think there's a lot of, you know, federal fisheries/council representation in those discussions, and so that might be a space to connect maybe folks in council social science into, because that's a conversation we're having there too, with like Fish and Wildlife

folks, of how do we coordinate across all our social science, for, you know, connectivity, and efficiency, and also just knowing what everybody else is doing. We'll connect.

DR. SWEENEY-TOOKES: That's great. Thanks, Chelsea. Just to make sure that we are addressing all of these slides though. let us scroll down to the regional differences, if we could, and we've sort of started addressing questions on some of the other slides, but just to make sure we address all of them. Thoughts on how the council better illustrates how they're using public testimony and LEK, or local ecological knowledge, how the council can encourage participation, and I'll -- Christina Package-Ward, I'm so sorry, and I did not mean to leave you on that last slide. Please.

MS. PACKAGE-WARD: No, and it's totally okay. I was just going to say that, I mean, I agree that it's like -- There's a long list of data that we could use, but, I mean, for sure, from my perspective, as like working on the social and environment sections, like demographic data on participants, that's a key thing that we need, but I like Council Christina's idea of maybe using the regional fisheries social science body, and maybe reviving that, and having those meetings again, and maybe incorporating the NOAA social scientists, if we still are around, into that conversation too, and like it would be great to -- And Chelsey, and maybe all the state folks too, and it would be great to just kind of get together and talk about it and have some kind of workshop or something.

DR. SWEENEY-TOOKES: Thanks, Christina. I appreciate that, and I apologize. It gets a little difficult to keep track of the names and the hands and all the locations, and so I'm sorry that I missed you. Thinking about how the council can better utilize public testimony and LEK and encourage participation in the public processes -- Kevin.

DR. HUNT: Just to piggyback on what Christina just said, if we do know the demographic data of participants, and where they live, targeting meetings to those locations may -- You know, those people are probably not often asked, and I thought I mentioned it like last year, having something in Atlanta or, you know, a bigger city, that would tap the people who are in no way going to make it to a coastal meeting, and that may get some new people involved.

DR. SWEENEY-TOOKES: As Christina just said, we did talk about this a fair amount yesterday, and so I just wanted to reiterate that sort of how people are received in the meetings makes a big difference, too. If fishers are feeling that the process is legalistic, and performative, then really making an effort to make it seem that there's more genuine listening happening at the council level will make a big difference.

One thought that I had about encouraging participation is to in some way give a very brief origin story, for many of the new projects and programs that come out, and, you know, Julia does a nice job of this with CitSci, and she sort of explains like where this project came from, what the idea was, and so, in many cases, I know that the programs and projects that council and council staff initiate do come directly from feedback that they receive from people, and so just briefly acknowledging that, hey, this was said in a meeting, and we heard it, that's why we're now doing XYZ, and I think that that makes a lot of difference for folks, but let's move on to the capacity limitations. Thoughts on capacity limitations?

Folks at home, I'm watching the board more carefully now, and so please feel free to chime-in. Opportunities for council staff to better coordinate with external entities, or how could council

staff capitalize on nontraditional sources of social and economic data? Any thoughts? Well, since we're going to hear a lot about that in just a few minutes, we'll move on to the last set of questions on ad hoc uptake, and how can council staff better illustrate the role of social and economic data and the analysis of management actions? Does the SEP think we need more information on how council members understand social science and what they're looking to receive, and we addressed that a little bit earlier, and Chelsey had some thoughts on that earlier.

MS. WIEGAND: For some additional context on why I'm asking that first question, I feel like, oftentimes, we are trying to collect more social data, more economic data, and there can be some resistance to that. Survey fatigue is certainly a part of that, the amount of time it takes to fill out any sort of catch report that may have additional information to that plays in, but I also feel like it's important that we're properly communicating why we're asking some of these questions, which I think sometimes stakeholders find a little bit disjointed, or a little bit separate, from fisheries, and I'm not sure that we, and I guess I'm speaking for myself, and I'm not sure that I properly explain to fishermen why we're interested in demographic data, or economic data, and so I was wondering if this body had any suggestions for how we can express why that information is important in the fisheries management process, and how that ultimately then sort of filters through to impacting the stakeholders themselves, or affecting the stakeholders themselves.

MR. WALSH: This is Jason, and this is something I've struggled with a lot in my work in North Carolina, because I get asked this a lot, and I also get told that we don't use, or we don't provide, economic analyses, which is frustrating to me sometimes, because, in every fishery management plan, we have to have those analyses, and they're there, and I'm not sure --

I guess I can empathize with you, and maybe it's on me, and I don't do a great job of communicating that, but it's hard to tell people that, hey, in Chapter 6 of this fishery management plan, this is where this exists. Without doing that, I don't know how to get it more out there, and so I guess I don't have a great answer to your question, other than just continuously trying to direct people to where this data exists and is produced for every species that we manage.

DR. SWEENEY-TOOKES: Chelsey.

DR. CRANDALL: I was just going to say that made me think this is nested, in part, in that bigger black box conversation, where folks don't know how the decisions are made in general, or where any of the other science goes into decision-making either, and so I think that's part of it, is it's just super complicated. You know, we generally do those kind of basic like this helps us understand who you are, and learn more about who is participating, figure out if we're missing anyone, those kind of things, but I know that's not quite the same as this is explicitly, how this is being used in decision-making, but maybe that's part of that bigger conversation, too.

DR. SWEENEY-TOOKES: I was lost in thought earlier, because I know that Georgia Sea Grant does a really nice job of taking economic information that's being gathered in the state and producing not just reports, but like really visually-accessible, really impactful infographics, and I know Adam did one years ago, and, Eugene, you've done several updates, you know, and so that's a great example of how to convey economic information, and I don't know if you would be comfortable sort of just describing what you do that's --

DR. FRIMPONG: This is Eugene speaking, and so, as you mentioned, usually we try to summarize economic information in the form of infographics, or fact sheets, that are more digestible by the users, mostly recreational fishers, and also commercial fishers, and I think, based on the feedback we've received, they easily understand how that is being used, especially to inform policies in Georgia.

One thing I also noticed was, during the fisheries disaster reimbursement, they wanted to understand how the data we've been collecting is informing the decision, and that's the DNR's decision, to reimburse them for that disaster, and so that's one way we communicate how the data is being used to benefit them.

DR. SWEENEY-TOOKES: Thank you. Thanks, Eugene, and I've seen -- I run into the infographics in lots of different places, which to me is a sign of success. I see them in outreach, and I see fishing groups using them as well, and so, just in the interest of time then, I might head to that last slide there.

MS. WIEGAND: On this last slide, we just have -- These are all of the recommendations, and then just a note that SCS 9, the next national SSC meeting, is going to be hosted by the Gulf Fishery Management Council, and up here it says in 2026, and that's actually now changed, and it's going to be in 2027, because of budget concerns, and so I just wanted to see if the SEP had any suggestions for a social science subtheme to include at that next meeting. We want to sort of keep the momentum going on including social science and economics at these meetings, and so, if this group has any thoughts, and it looks like Judd, who was actually at the meeting, might provide some additional context on what they're looking for for SCS 9.

DR. CURTIS: Not so much context, but the solicitation of ideas from both the SEP and SSC, that we'll be tackling later this week, and, if we can get those recommendations, and your suggestions, fairly quickly, and we're going to have another planning team meeting for SCS 9, even though, as Christine alluded to, it has been delayed to 2027, but the Gulf staff wants to keep that momentum rolling, as she alluded to, and so we're going to start getting some ideas down on paper during that next planning meeting, in I think two or three weeks.

DR. SWEENEY-TOOKES: Thanks, Judd, and so, yes, it's very important that the SEP weighs-in on what we want to see the foci to be. For myself, I would highlight that second item, the regional differences, and I would love to see that body come together and really determine how to formalize the use of what might seem like disparate sources of qualitative or social science data, really sort of operationalizing how that can be incorporated into decision-making processes. I would love to see that as a focus. Kevin.

DR. HUNT: Yes, and it would be really helpful, from the council itself, what do they consider as trustworthy data, and sources of that data, and, you know, there's a lot going on, and what are they going to -- You know, what are they looking for, precisely, to focus projects in the future?

DR. SWEENEY-TOOKES: Especially, in that situation, having conversations between the social scientists and the non-social scientists in that room. That, to me, you know, building on what Kevin said, might even be the bigger sticking point, right, and, as scientist to scientist, how can we make our different approaches, and our different methodologies, strengthen each other and work together, and any thoughts at home?

I know that the audio situation is still bad. Apparently when we speak, you hear lots of static, more than our voices, and I promise that's not what we sound like in-person, and we're really sorry that you're not here with us, but, if there's no other ideas on this particular slide, I think we should go ahead and move on to Agenda Item Number 6, which is also Christina, and she's going to be talking to us about utilizing information gathered during outreach initiatives, and so lots of information. Again, we do have a series of questions, and so, if you're assigned to this section for note-taking -- Christina Package-Ward.

MS. PACKAGE-WARD: Sorry, and I was just going to say that I really love your idea, Jennifer, of like trying to incorporate qualitative data into fisheries management. I feel like that's something I struggle with in the social environment, is trying to, I guess, find information to use, but then also, you know, the ability to have time to like mine through it, and include it, when we're on such a quick timeline, and so I would be really interested in exploring that idea, and discussing it more, and I just want to say too that like the social indicators, I mean, were totally revolutionary for like what we could do for the social environment, just because they were just like plug-and-play in there, and we've relied on them, I mean, since I've started my job, but like it would be great to do a better job at all of this, and I think we could do that with qualitative data.

DR. SWEENEY-TOOKES: Great ideas, Christina. Thank you, and so then moving on to Number 6, and, again, we have a fair number of guiding questions, and so if we could all just take a quick spin through some of those, and have them in mind, and it's good to have lots of questions, because one way of phrasing something might not spark ideas, but other ways of phrasing it might, and so I appreciate having lots of questions. I will turn it over to Christina to talk to us about information gathered during outreach.

UTILIZING INFORMATION GATHERED DURING OUTREACH INITIATIVES

MS. WIEGAND: Thank you, and so this next presentation is sort of been something that's been noodling around in the back of my head for a while, that I thought would be worthwhile to bring to the SEP for discussion. While I'm the fishery social scientist, I've had the great pleasure of working closely with our outreach team over the last few years, on some of the work that they do, and the information that they're able to gather, because of the relationships they've built with fishermen, I think can be of value to how we look at the social and economic environment in the South Atlantic.

It may not be collected in sort of the traditional scientific rigorous way, but I think it's worthwhile to sort of take a step back and see how it can be more consistently collected and used, because I -
- You know, I'm not going to sugarcoat it, and we're in a very data-poor situation when it comes to social science and economic information in the South Atlantic.

We are also resource poor, in terms of the number of staff we have to do this kind of work, the money we have to do this kind of work, and other constraints, like the Paperwork Reduction Act, that make it challenging to do things like surveys, and so, personally, I feel like it would behoove us to start considering how we can utilize this great data that the outreach team sort of passively collects during all of their various interactions with stakeholders.

For the presentation, I want to first sort of talk about the different in-person outreach and engagement efforts we have, and I will note that I'm only going to talk about the in-person work that we've been doing, and we also have staff that do social media work, and we send out a number of newsletters to engage fishery participants not in person, but, for this discussion, I'm going to focus just on in-person outreach and engagement events, and so I'll sort of go over very briefly, because there are a lot of them, what that effort is and then the information that is sort of collected through those different efforts, and then I'm hoping this group can sort of brainstorm ways to utilize the information that is collected, and I do have some guiding questions.

Then, after we sort of had that discussion, I do want to have a brief discussion about illustrating the value of those outreach activities. Like I said, we often work in a resource-limited environment, and so making sure that we are properly communicating just how valuable those outreach activities are, and then some more brainstorming questions.

So, with that, I wanted to briefly go over a new initiative that the council is working on called Lines of Communication: Conversations with the Council. We actually talked to you guys about this effort at our last SEP meeting, and it was just then called stakeholder engagement meetings, which you guys, and many other bodies, noted was perhaps not the most exciting name, and so one of our Snapper Grouper Advisory Panel members actually recommended Lines of Communication, which is what we've stuck with.

This is a new initiative that's really focused on building relationships with stakeholders, one by meeting them in their communities and creating a structure that allows for that two-way conversation in a more informal setting, thinking that we've heard from advisory panel members, council members, and fisheries stakeholders that sometimes they feel like the most productive conversations they have are the ones that they're just having on the side of the meeting room with stakeholders, and so trying to create a situation where we can allow for those conversations to happen more often.

These are going to occur in two states per year, alternating, and so at the end of this year, and the beginning of next year, we'll be in North Carolina and Georgia. The following year, we will be in South Carolina and Florida, and this is something that is going to become sort of a permanent part of the council's outreach and engagement efforts. This isn't just a one-off, and we'll be doing these year after year after year, in perpetuity, so long as funding holds out.

We've got it structured in a couple of different ways. We've got a series of sort of three activities that we're going to do with attendees, and we've actually been doing practice runs of this with our advisory panels, and so some of this might be subject to change, based on what we learned actually running through the activities in a more real-world environment, but the first of the activities is sort of general input on fisheries, captured via a sticky wall, talking to meeting attendees about what isn't working in their fishery, what is working, what changes could be helpful, getting all of those ideas up on a sticky wall, which, if you guys haven't seen before, it's that sort of blue sheet in the back, and then working to categorize all of that input based on themes.

Then we'll have sort of a specific topic discussion, and we'll put attendees into breakout groups. The number of breakout groups will likely depend on the number of attendees, but small group discussions on a specific topic. For these coming meetings, it's likely to be trip satisfaction, and we will capture the discussion by just writing on flipchart notes.

Then, sort of last, but not least the final activity is more of an informal -- Think of it like a tabling event almost, and just very small scale, where we'll have different areas set up around the room, and fishermen will be able to just sort of mill between each of the tables, based on their interests, and we're looking at sort of a Fisheries Management 101, how to get involved in fisheries table, a citizen science table, and then a table talking about releases, and so that's our Lines, our new Lines, effort.

We also occasionally do more focus-group-oriented meetings, and these usually only occur as needed. They're usually surrounding a specific fishery, or a specific management need, and examples of that would be the mackerel port meetings that we just held all last year, and, also, if you can remember back to 2012 and 2013, we did a snapper grouper visioning effort.

Unlike Lines, these tend to be just sort of one-off in-person meetings, and we might do a series of them along the coast, but it's not something that occurs year after year after year, and, typically, information that's gathered through these is specific to the topic, and how it's collected can vary. For snapper grouper visioning, they use the sticky wall. For mackerel port meetings, we wrote everything on flip charts, and did more focused discussions, and so how these meetings work often vary quite a bit.

Now, sort of moving away from the more management oriented-efforts and towards more general outreach efforts, one of the things that Ashley Oliver, our best fishing practices outreach specialist, has developed is the BFP Master Volunteer Program, and we've talked to you guys about the best fishing practices campaign before, but, again, just briefly, the goal of that campaign, broadly, is to improve the survivorship of released snapper grouper species.

This master volunteer program is sort of based on the master gardener program, and this is a recommendation that came from our Outreach and Communications Advisory Panel that Ashley ran with, and turned into an incredibly successful program, but it brings together fishermen, port samplers, state agency personnel, and sort of trains them on best fishing practices, in the hopes that it will encourage them to train others within their fishing community, so trying to get at those key community members, and having the message on best fishing practices come from them, as opposed to from the council, which we know is not always maybe the best messenger.

These occur throughout the year, as funding allows, and it's primarily snapper grouper fishermen that are participating, and these -- Ashley has designed these intentionally to be very informal, and the specific topic that gets discussed, outside of sort of best fishing practices, can vary, and maybe people are interested in talking about black sea bass, or maybe it's red snapper, or maybe it's some other aspect of the fishing experience, but, in order to better engage them, they sort of allow those conversations to flow, and so Ashley, as well as either Julia or Meg, and we usually have a citizen science presence at these too, are sort of passively gathering information on how people feel about the snapper grouper fishery and how management could improve that fishery.

There's also the What it Means to Me video project. This was also developed by Ashley Oliver, as well as Nick Smillie, and this is a video series that highlights the stories of South Atlantic fishermen, and so they will go and film talking about why -- Talking to fishermen about why best fishing practices are important to their fishery, and why they chose to get involved in the management process.

Sort of through this, and you can think of it as almost a less structured video oral history, and they often get a lot of background information on these fishermen, and, of course, why they chose to be involved in management, which is incredibly helpful when we're trying to consider how to encourage others to be involved in management.

All of these videos are on our website, and so just a quick plug. If you have not watched them yet, they are incredible, and I really encourage you to take some time and look through the videos that are available. Like I said, similar to oral histories, background information on why fishing is important to them and why they choose to be involved.

There's also a ton of just interacting with the community that our outreach team does, and we do tackle shop outreach, which it's just, you know, we have a database that has, to our knowledge, the majority of tackle shops in the South Atlantic region, and, when we're doing outreach for one reason or another in an area, staff will often go into tackle shops, to have conversations with the staff that's there, managers that happen to be there, and just people that happen to be shopping in the store, and we'll provide them outreach information as well.

We're also trying to visit these tackle shops more than once, and so a number of tackle shops have also been visited twice, and, again, hoping to build those relationships, not just to get people involved, but also the information they're likely to talk to us about is going to improve as we sort of build those relationships.

We also do fishing seminars, and, again, I say "we", but most of this work is done by Ashley, Meg, Greyson Webb, our Sea Grant fellow, and Julia but, fishing seminars -- We do these with tackle shops, with fishing clubs, as well as different sort of industry events, and then fishing expos we're often at, and we've got pictures here from, you know, the Florida Keys Seafood Festival, Haddrell's Fishing Expo, and I think one of these is South Carolina DNR open house, and then the George Poveromo seminar, and so these are just tabling events, where we've got multiple stakeholders coming to us, and we're having conversations with them about best fishing practices and citizen science, but we're also usually having conversations them about what's happening in their fishery and what's important to them.

The tackle shop database itself does have some quantitative information, sort of general impressions on what has happened, but also frequency of visits and the number of best fishing practices or citizen science materials they gave, and, like I said, through these events, outreach staff are having conversations with a wide variety of fishing participants along the coast.

I would argue that they might have a better perspective of what's happening all along the coast than some of us who spend more of our time just here in Charleston, and they have a really good sense of what the salient issues are within fishing communities, what's really affecting those communities.

Of course, some conversations may be driven by outreach materials that are presented, and we might be sort of driving them to talk about best fishing practices, or citizen science, because of what we're there to talk about, but I would say, in my personal experience, the conversations, especially if you're talking to people that you've gotten to know over multiple interactions, the conversation ends up being much broader than that.

That was a very, very quick run-through of the huge amount of outreach and engagement that the team at the council has been doing, and, like I said at the beginning, sort of as a -- While outreach and social science are different, I think, having now gotten to be involved in a lot of these outreach efforts, that they are collecting information that is helpful to the social science process.

The challenging thing becomes, you know, how can we make sure the information gathered is captured, if it isn't already, and how can we sort of comparably track it across different outreach events, and how can we then sort of take that information and look at it to understand trends we're seeing in fisheries, and then sort of what SERO Christina was talking about earlier, and how can we effectively present and communicate what are more qualitative insights to the council, and present it as a bit more than purely anecdotal evidence, especially given that this isn't collected in your typical rigorous scientific fashion, but, again, we are in a situation where we are incredibly data and resource poor, and I think this is a chunk of information that we haven't really figured out how to utilize as well as we could within the management process. Like I said, it's something that's been sort of noodling in the back of my mind since I got more involved in these outreach initiatives, and so now I'm hoping we can noodle it around your minds.

DR. SWEENEY-TOOKES: That is a wide variety of really excellent work happening, which might make it tricky to think this through and respond, and I know I have a page of notes already. Thoughts from the SEP? Chelsey.

DR. CRANDALL: Chelsey, and so the first thought, and I also agree that this is a lot of really awesome stuff that you all are doing. If there were say one, two, three consistent questions, like what were the topics we heard about, or, you know, something that you could develop, and then, after each of these things, whoever was there can either self-record, or you could debrief and say, okay, you know, we just had this outreach event, and what did we see that relates to Question 1, you know, and what are the things that we heard from people, and just collect it in that way, sort of consistently after each of these different types of interactions. Maybe then you would have this large body of, hey, across all of these things, this came up consistently, or we heard different topics in different areas, and that's just a first thought.

DR. SWEENEY-TOOKES: Yes, absolutely, and I'm thinking along the same lines, and, coming back to something Kevin said yesterday too, entering each of those events with what are our goals, and what questions do we think we can answer here, and then, at the end of it, did we meet those goals, whatever those goals were, and how did we meet them, and how did we not meet them, and what could we do to improve this event, but then also be reflective about what are some things that we're doing that seem like a great idea in our offices, but aren't really working on the ground, which happens all the time in research, right, but really thinking preemptively about those goals and guiding questions.

Then can you answer that question with some level of agreement, right, and that's what we look for when we do thematic analysis, is not just what are some ideas we heard, right, and that becomes very anecdotal, and you take that step from anecdotal experiences to actual data, when you can see, you know, consistently, across this entire event, these were the three key things that came out, and maybe two of them weren't even on my radar, and they were not one of my questions, and I need to ask better questions, but this is what is salient here. Kevin.

MR. HUNT: This is Kevin, and it's not directly related to your discussion questions, but in terms of -- We talked about social network analysis yesterday, and you were talking about BFP, and using, you know, those people, because they listen better to you. Well, social network analysis is you're kind of looking for who the opinion leaders are, and I don't -- You know, I think that would be helpful to collect at each meeting, is where do people go, or who do they trust, other than the council, for this information, and, long-term, you will see the same names pop up, probably, and, you know, the council can then focus on those opinion leaders, and be much more effective, you know, in buy-in, you know, maybe down the road.

DR. SWEENEY-TOOKES: Jason.

MR. WALSH: This is Jason. Have you -- I'm sorry, and I was unclear, and have you already had these Lines of Communication meetings?

MS. WIEGAND: So we have not had any official yet. What I was talking about is we were running sort of practice trials with our advisory panels that met, to work out any of the kinks, and get their perspectives on how these meetings were flowing, and how they were likely to be perceived by stakeholders. Our first ones are scheduled for the end of this year. I'm going to look at Julia, to make sure I'm saying the right dates, and we're going to be in Georgia the week of November 10, or 3, but in November. We will be in Georgia in November, and then, in February, we will be in North Carolina, and those will be the first time we're implementing this new project.

MR. WALSH: Awesome. Yes, and I was listening when you did the activities with the Snapper Grouper AP, I think, last week, or last month, and you guys were doing this sticky note wall thing, and seeing the visual is helpful, because, obviously, when I was listening, I did not really understand what was going on, but it seemed like you got a lot of good feedback, and could you, I don't know, maybe hit on one or two things that they liked, or didn't like, about that?

MS. WIEGAND: So I will say we got -- We have done this run-through now twice, once with the Mackerel Cobia Advisory Panel and once with the Snapper Grouper Advisory Panel, and I will say they generally had different feedback. I think part of that might be that the Mackerel Cobia AP is coming off of the port meetings experience recently.

I think, broadly, they liked the sticky wall activity and the ability to see all of their input up on the wall. I think one of the things we are going to have to talk about a bit more, as staff, is sort of what questions we want to use to guide that discussion. We had originally started off with, you know, what's working well in your fishery, and there was a general thought, from the Snapper Grouper Advisory Panel specifically, that that might not be the best first question.

There was also some thought from, and now I can't remember if it was the Mackerel AP or the Snapper Grouper AP, but maybe switching the order we had some of the activities in. Right now, we're doing the sticky wall activity, the breakout group discussion, and then the more informal session at the end, and there was a thought that maybe it might help to have something a bit more informal at the top, to break the ice, and have people feel a bit more comfortable, than participating in things like the sticky wall discussion and the topical discussion session.

DR. SWEENEY-TOOKES: I think that's great advice that you got, and this is something that I've definitely talked probably with you about, and other social scientists, and, you know, we often

open qualitative interviews with a big, open question like how are things going, right, or something along those lines, because people tend to come to interviews, or discussions, or events with the things that are present in their mind.

I think it was Kevin St. Martin, up in the Northeast, that called this the space for lamentations, right, which I thought was a really poignant term, but people -- You know, these are their livelihoods, or they have so much invested in the fisheries, that really taking a chance to let people tell you what's on their minds first might be far more productive in the long-term too, right, and they get a chance to be heard, but then you also then get to gather that experience, and so I think that's a wise choice to flip that. I'm interested in how you're recording what's on the sticky walls, because this is really interesting data, that needs to be recorded systematically, and analyzed systematically.

MS. WIEGAND: How we have it structured right now is there's one staff member facilitating the discussion, and two other staff members recording what fishermen are saying on a sticky note, putting it up on the wall, and then we're taking a photo of that sticky wall, to make sure we have all of that information.

We have not had discussions from staff on how we then go from everything that's on that sticky wall, at multiple meetings that we'll be holding, and then sort of summarizing that and communicating it to the council. Julia, who has been leading up the sticky wall development, might have some thoughts about how we did this, or how it was done maybe for snapper grouper visioning, which also heavily is the sticky wall.

MS. BYRD: I was thinking more of kind of what was done with -- So a similar exercise when the snapper grouper visioning meetings were held, and I didn't head those up, and I was helping with them, and so Amber von Harten did a lot of this work, but so we had -- When things were on the sticky wall, they were kind of grouped together, clustered together, and like things were clustered together, and you would give them a kind of thematic topic, and then you would -- What she did was kind of each meeting had a sticky wall, and then you would look for common themes, or kind of differences, amongst that state, or amongst regions, or things like that, and so that's kind of how she did it there, looking for like things.

She looked at things I think by state or region, by sector kind of level, trying to see if there were common themes throughout everything, and, I mean, I hope I'm not misspeaking, but it wasn't, you know, a super involved, social-science-type analysis, and it was more looking for common threads, and common themes, that would give the council potential management actions, or issues that could be addressed through management actions, and so it was more kind of that was how it was done last time, but, if there's a better way to kind of do things, I think people would be all ears.

MS. WIEGAND: Well, and, if I can add a little bit to what Julia is saying, I think one of the things that the large team of us that's developing these Lines meetings have struggled with is that, for snapper grouper visioning, and like for mackerel port meetings for example, there was a specific end goal, and we were talking about a specific fishery, whereas these are much more open-ended, and we're likely to get input on not just snapper grouper, but mackerel cobia, dolphin wahoo, and maybe someone comes and wants to talk about spiny lobster, and they are meant to be sort of proactive, and there's a list of ways the council is going to utilize this information, but it's not quite as narrowly focused as snapper grouper visioning and the port meetings were.

DR. SWEENEY-TOOKES: Then I think I'm coming full circle back, and forgive me if we already covered this, but what is the prompt being given to spur people to write things onto these cards, onto these sticky notes, and what are they responding to?

MS. BYRD: This is not going to be verbatim, because I'm just doing it out of memory, but it's kind of a series of questions that's kind of getting at, you know, what's working well in your fishery, and what's not working well in your fishery, and what sort of changes have you seen in your fishery that's impacting it, trying to get a sense of people's perceptions, and how they feel their fishery is doing, and what problems they've identified, and so it's like a series of three or four questions that -- Myra has been the one doing this, but kind of asking people, just to kind of get their ideas flowing.

When you said, Jennifer, you know a lot of people come to a meeting with something on their mind, that they want to share, one of the reasons we thought maybe doing the sticky wall first is a way that they can share that information, and we can kind of see also if there are common issues that are popping up all the time, from many people, at the beginning of the meeting, and that will tell us a little bit about what folks are interested in in hearing about from council members and from staff at the meeting. I can pull up a document, where I could give you more specific information on the questions, but that's the general kind of information about it.

DR. SWEENEY-TOOKES: Thank you, Julia, and I think then that brings us back to then are you getting responses that can answer the questions that you are prompting them with, because that is where you're going to know whether or not you're successful.

MS. WIEGAND: I would say we hope, and it's one of the reasons we did these run-throughs with the APs, to sort of see if these questions need to be modified in any way, to make sure we're getting the information the council has said they want to get out of these meetings, one of the things specifically working on prioritizing their workplan and things like that, and so I would say we're getting close, but we'll likely make some changes to the questions, to better make sure that we are achieving those goals.

MR. WALSH: This is Jason, and I'm having a hard time envisioning productive feedback from someone asking how is your fishery doing, and, coming from the council, what are things that the council can change, and it's like how management happens, how we interact with you, and I think it might be helpful to focus on questions that can have answer -- Or that the council can actually change something, right, and like folks will say, oh my fishery is doing horribly, and I'm getting put out of business, and you need to -- I can't catch enough fish, and, I mean, maybe this is a great opportunity for people to say that, but that's it's not actionable, really, I think, in that in that context, really.

I'm trying to think of maybe asking more questions about the management process, or how we are interacting with you, or how we provide information, and I'm not -- I'm not being very helpful, but I'm trying to think of ways to ask questions where we can get answers that we can act on.

MS. WIEGAND: No, and I think that's something that we have also struggled with, as a broader planning team, especially in terms of setting expectations with stakeholders, given that there's not

a specific management action after this, and so, in terms of -- I guess I have a couple of things I want to note.

In terms of the sticky wall, we've sort of gone back and forth on how to structure that. We had originally thought about doing it so there were sort of preset categories, things that are already on the council's priority list, things that are not on the council's workplan, and then things that are not under the council's purview, or things that are research recommendations, and the concern about that was that sort of defeats the purpose of a sticky wall, and sort of actively working as a group to categorize things, which is how we had --

Why we had ended up going towards identifying categories based on what was said during sort of the prompting questions that were developed, and concern that maybe putting someone's idea into the this isn't under the council purview makes it feel a little bit like we're just pushing it off, and not really acknowledging something that is clearly important to them, since they showed up to a meeting to express this thought.

Second to that, I do think it might be important to try to gather information on how we're communicating, how we should be communicating, and one of the things that surprised me at the AP meetings was that, at both Mackerel and Snapper Grouper, when we did this exercise, outreach and communications ended up being one of the categories that was identified, and so that's telling me that that is something that at least our advisory panel members feel like is worthy of more discussion.

DR. FRIMPONG: In the meeting that I attended, there was this artist who takes the information from sticky notes, and then turn them into visuals, and I think that is very informative, because she just summarizes all these sticky notes into just images, or pictures, and perhaps you might want to explore that, of course for a fee.

DR. SWEENEY-TOOKES: I have seen that too, Eugene, and it's amazing, and I have an example somewhere that I will find on my computer and send to the SEP. Was it a climate conference, the Georgia climate conference?

DR. FRIMPONG: Yes.

DR. SWEENEY-TOOKES: Yes, and it was the same one. It's someone listening during a session, and taking visual notes of each of the parts of the session, and the person's -- I mean, this is where it's really individualistic, right, and the person's ability to create a visual synopsis of really complicated stuff was incredible, but something like that -- Yes, and I'm going to find some examples to send to the SEP. Good idea, Eugene.

DR. FRIMPONG: (Dr. Frimpong's comment is not audible on the recording.)

DR. SWEENEY-TOOKES: So it sounds like Eugene and I actually saw two different people, and, I mean, this person used a -- Was able to do it from a sticky wall, and, the person I saw, he was able to do it during the session, and so apparently this is a skill that we should think about it. Kevin, and then John, and then Chelsey.

MR. HADLEY: I just had a quick follow-up.

DR. SWEENEY-TOOKES: Yes, John, please.

MR. HADLEY: As a quick follow-up to that, is that something where they -- Was the artist sketching it out, or were they using like an AI generator?

DR. FRIMPONG: Sketching it out.

MR. HADLEY: Wow. Okay. Thank you.

DR. FRIMPONG: It's amazing.

DR. HUNT: In terms of questions at this outreach, I want to go back to the studies Dr. Bonney and Jennifer did yesterday, where we have scientists, and I brought this up with Julia after the meeting yesterday, and we strongly disagree that South Atlantic fisheries are healthy, but anglers tell us they are, and so how can we piggyback on these studies we have done in these outreach, to dive deeper into those topics that we identified in the survey, where we have significant gaps between people in the process and participants in the fishery?

You know, like we don't think anglers, or for-hires, or the commercial fishery trust us, trust our data collection, and what do they think needs to be collected in their fishery for them to be able to say it's trustworthy? Why don't the fishing industry associations represent -- You know, they think they aren't representative of their beliefs, and so, rather than going into the outreach, to kind of flush out some ideas, go into them with a targeted approach to piggyback on stuff we've already done.

DR. SWEENEY-TOOKES: Thank you. Chelsey.

DR. CRANDALL: Stepping back out a little, and thinking of these questions of across things, I think what keeps coming up is having some sort of rooted in social science plan for how to analyze the things that we're getting, and like we talked about thematic analysis. I think, if we go into it from the start with that, that will help then in the reporting out of like, hey, we took this rigorous approach to analyzing the data, that has this fancy name, and that's how we got it. You know, just to show that like this is not just anecdotal, like was said.

Then I'm still thinking of if there's things that we talked about with relationships, et cetera, where either the people who were doing the outreach can record almost a -- I always get observer as participant and participant as observer confused, but recording that, or have, you know, a social scientist interviewing them after things and saying, hey, what did you see this time, and did anything stand out, and how many people did you talk to, and some better questions than that, but, if there were things like that, that we could use to record some of these elements over time, maybe that would yield some insights too, and it would be a little more systematic.

DR. SWEENEY-TOOKES: Excellent. Excellent start, and so we've sort of jumped around from, I think, the Lines of Communication, which I love that name and the logo. Focus group meetings, I think we sort of lumped them together in our discussion, unless anyone had any focus-group-specific things they wanted to address. Christina.

MS. WIEGAND: All right, and so that was really fantastic discussion. Thank you, guys, and, sort of in the last, you know, ten or fifteen minutes that we have for this agenda topic, I do want to have a brief discussion on illustrating the value of outreach, and so I think we had a great discussion on how all of this outreach can help inform some of our social science efforts, especially if we make an effort to sort of, after these events, more systematically collect things, and maybe, before the events, debrief on sort of the one or two or three things we want to ask questions about.

Again, in a funding-limited scenario, I want to make sure that we are actively communicating the value of outreach, not just to social scientists, but to also building relationships and trust, which we have talked about throughout the entirety of this SEP meeting, and so we have some available statistics to do that. We do use QR codes, and we have statistics from our QR codes. We have social media engagement, things like likes and follows, the number of visits we get to our page or profile, overall reach of our posts.

We also have great website analytics, looking at the number of visitors, where they're going, different page views, bounce rates, session duration. It's Nick Smillie, our digital communication staffer, that does a lot of this fantastic work.

We've talked about some other ideas, sort of making sure we're compiling general metrics like overall attendance at different events, the number of returning attendees, the number of individuals that are asking for more information or applying to advisory panels. Again, sort of we're hearkening back a little bit to the conversation you all had yesterday with Julia about tracking relationships that citizen science is helping to build.

We've also tossed around the idea, especially with Lines of Communication, of asking attendees at the end of each meeting whether their expectations of the meeting were met, to better understand attendee perceptions of the meeting, sort of how we can improve over the future, and then tracking relationship building over time by monitoring connection points.

Meg Withers and Ashley Oliver developed this, what Julia was mentioning yesterday, sort of our spider web of relationships, and so they're the ones that developed this and built the relationships, but I did sort of want to illustrate it for you all, and so there are all these different events that we can do. Those are kind of hard to read on the screen. You just need to pay attention to the symbols.

For example, we did a seminar at Haddrell's Point Tackle. From that seminar, we got Release sign-ups, and then were invited to the Haddrell's Fishing Expo in 2013, or 2023, and oh my goodness, where we got more Release sign-ups and were asked to do two seminars at the Expo. We were then invited back to Haddrell's Point, to do another seminar, where we got more Release sign-ups, did two more seminars at the Expo, did another seminar at Haddrell's, where we got more Release sign-ups, and we were able to get people to participate in the BFP MVP program, and so you can see those connections building over time.

Here is sort of the connections that had been made in 2022, moving into connections we had in 2023, and then into 2024, and that 2024 one may look small, but, when we developed this, this is actually June of 2024, and so, by halfway through 2024, the number of connections that we had built, that had moved into sort of productive additional outreach events, was already about the same as everything we did in 2023, and so you can see this huge amount of relationship building that's going over time.

You can also see how, you know, a visit to the Tackle Shop, which is a fishing tackle store in the Keys, a visit in 2022 ultimately led to a seminar we were able to do in 2024. From the Haddrell's Point Expo in 2024, we got more BFP MVPs, and sort of so on and so forth, and so this is what we've been using to sort of illustrate how having such a large and truly excellent outreach team has helped us really build relationships that are turning into fruitful activities.

Like Julia said, sort of going from 2024 into 2025, we're actually seeing people come to us with requests for us to come and table at their event, or to do a seminar, and so just, again, a few questions to sort of wrap us up.

We talked about this a little bit yesterday with Julia, but how can council staff sort of better track the development of these relationships over time, and then, sort of as important as that, how can we then communicate and effectively present the value of these efforts in achieving the council's goals and objectives specifically, and then sort of any other thoughts about how the outreach program and the social science program can work together to help achieve council goals.

DR. SWEENEY-TOOKES: Thoughts for Christina? I adore your charts. Love them. I think that's a great start. I assume it's also somewhere linear, in sort of a -- Kevin.

DR. HUNT: All right, and this is Kevin. There is something that I've studied, and it's called the expectancy disconfirmation theory, and it deals with expectations and satisfaction, and you guys are doing a post hoc analysis on whether expectations were met. I think you need to think about getting expectations prior to the meeting, because what you can get from that is that gap analysis.

Where are you guys underperforming, and where are you meeting expectations, and where are you exceeding expectations, and, if you're spending too much time on something that you're exceeding, you can then say, okay, we can cover that less, and move to more something that we're just meeting expectations, or we're underperforming slightly, and so, if there's some way you could get expectations before the meeting, and then ask them how each of those expectations were met, it will maybe provide you guys some useful tools for improving the outreach efforts over time.

DR. SWEENEY-TOOKES: Thanks, Kevin, and you said that was expectancy --

DR. HUNT: Disconfirmation.

DR. SWEENEY-TOOKES: Disconfirmation. Thank you. Other thoughts? I mean, I think your idea to compile just the general metrics is always a good one. Jason.

MR. WALSH: Yes, and I think -- This is Jason, and I think showing that, obviously, that visual was awesome. I think further development of those would be helpful for the council to see. I think even just having number of people that we interact with in a year, just like hard numbers, would be helpful, because I would imagine it's pretty high.

In an environment where you increasingly have to justify, you know, your impressions, I think that that would be helpful to track over time, and maybe not really showing relationship building necessarily, but impressions perhaps. Maybe, if you interact with someone multiple times over a year, or consistently over time, that would be helpful to track as well, and maybe that would come

out, but I think usually you ask people's names, and so that would be pretty relatively easy to track, I would think.

DR. CRANDALL: I'm just thinking too, and I know we others have mentioned Extension, that there's a lot of spaces where they have a lot of experience in evaluating reach and impact, and so I would defer a little bit to those too, because I know there's lots of tools for like here's a quick workshop evaluation tool, and you all may already have those, that folks developed to get at some of these, too.

I'm trying to think through like -- Because my, you know, social science inclination is always like here's some cool studies we could plan to really get at that, but I'm trying to figure out like what is enough to show some of these things, and maybe some of those, just like we talked about, tracking of numbers, tracking of repeat, tracking of invites to come to new places, might be enough to demonstrate these things.

MR. WALSH: Jason again, and I think asking -- This is probably obvious, I guess, and I'm sure you guys have already thought about this, but asking the folks that are going to be coming to these Lines of Communication meetings what their previous relationship with the council, and how they heard about it all, and getting information from them would be, I think, very interesting, because they're going to be this like hyper-involved stakeholder, I would think, because there's no action, and there's no -- They're not providing public comment for a fishery management plan or anything, and so understanding that demographic of people, and why they're there, and how they -- What their motivation is I think would be helpful.

DR. HUNT: Kevin, and I'm going back to your available statistics slide, if you kind of want to show that, and kind of that -- To me, and I know the cost of producing pamphlets is high, but, you know, having that QR code linked to an outreach event would help with those analytics, and to talk about like the difference between outputs, how many hits do you get, and outcomes, you know, and that kind of illustrates it.

If you go into an outreach event to focus on types of homemade devices, an outcome would be that we want 25 percent of the attendees to hit that QR code, as opposed to number of hits, and just what is your target for talking about that, and trying to direct them to something, and then you become outcomes-based, as opposed to output-based, and so I think having targets for people hitting your social media sites, hitting your QR codes, you know, turns this from a numbers game to, you know, something to achieve and engage yourself against.

DR. SWEENEY-TOOKES: Thanks, Kevin. A couple last thoughts, just to throw out there from during your presentation, and the videos are amazing and wonderful, but we can't just build it and assume they will come, and so hopefully you're pushing them out through your ambassadors, through the APs, sharing them widely, and asking people to share them.

Thoughts about the tackle shops? You're sort of in a situation where you have limited capabilities, and so are you focusing on quantity or quality, right, and one visit is a visit. Two visits, you're starting to build something. Three visits, maybe you have a relationship, and so just a thought about what's the end goal there, and it might be worth it to not hit every tackle shop if you're more interested in building long-term allies.

Then the last one, just as a social scientist, for this entire -- For this entire presentation, I kept hearing my PhD advisor in my head. If you don't write it down, it didn't happen, and so I know that you all keep as many notes as you possibly can, but I just wanted to reinforce that. Please do it. Please write it all down, and so, if there are no other thoughts, Christina, this is all really good stuff that you all are doing, and I would like to propose that we take a short break, and then we will come back and hear from Kai, and so let's come back in ten minutes, please, folks, at 10:10.

DR. SWEENEY-TOOKES: All right, folks. It is 10:10, and so we need to get started. We're coming back from break, yes. Coming back from break, we are going to be hearing about Situation Assessment on Stakeholder Perspectives of the Snapper Grouper Management Strategy Evaluation from Kai Lorenzen, and so this is Attachment 7, and I will turn it over to Kai. Thanks for being here, Kai.

SITUATION ASSESSMENT ON STAKEHOLDER PERSPECTIVES OF THE SNAPPER GROUPER MANAGEMENT STRATEGY EVALUATION

DR. LORENZEN: Well, thank you. For those who don't know me, I'm a fisheries professor at the University of Florida, and a member of the South Atlantic SSC, and I'm going to be talking about a small council-funded project that we're currently doing.

This is work mostly done by my post-doc, Dr. Susana Hervas, but I'm presenting it partly because I'm here already, and partly because I want to put it in the context of the wider snapper grouper management strategy evaluation, and I want to introduce you to the snapper grouper MSE a little bit, because that project has a team, and has given a number of presentations, but none to the SEP, and so I want to give you a little bit of background, talk about the situation assessment approach, give you some preliminary results, and then talk about implications for the future of the snapper grouper MSE.

Management strategy evaluation is a well-established methodology in fisheries management science, and it aims to evaluate the performance of management systems and identify robust management procedures, and so procedures that are likely to get you to a reasonable management outcome, given various uncertainties and sort of limitations that you have in your data and so on, and it basically involves modeling the whole fishery management system, and so you model the fish population, the fishery, the data collection, the stock assessment, the decision-making, and we build an overall sort of systems model. Then you basically interrogate that model, to see how well different management procedures, or data collection approaches and so on, how those influence the outcomes of management and identify good procedures.

Stakeholder involvement is seen as an important part of this, and the reason for that is that it's meant to improve buy-in, reduce implementation barriers. Once, you know, you have worked with stakeholders through the MSE process, it should be easier to implement the management approaches that come out as promising. It also, of course, means stakeholders can provide information that feeds into the MSE, and that, in an ideal case, really leads to mutual learning about the management issue and the management strategies.

It benefits from clearly defined roles and explicit and transparent process goals and objectives, and, in a sense, you can view this as a participatory modeling framework, and I have a little graphic

here from a paper that was written by a number of NOAA scientists very involved in MSE, led by Dan Goethel, and it sort of shows you this nice, in this case, quite linear framework, from identifying participants going through the process to eventually adopting the desired management approach.

There are actually MSE applications where the MSE is that central to the management decision-making that it actually ends with implementing the identified strategies, but that's not always the case, and one of the things we'll hear about, or we have heard about from stakeholders, is the way the MSE is or isn't integrated into the management process.

The snapper grouper MSE was a council initiative that ran initially from 2022 to 2024, contracted with Blue Matter Science, a Canadian company that specializes in doing management strategy evaluations, and the focus was on strategies to reduce the number of released fish, to improve yield throughout the snapper grouper fishery, and so it's really a discard-mortality-focused initiative, if you like, considering the need for fishery access and resource use while preventing overfishing and rebuilding overfished stocks. It provided an opportunity to evaluate different management strategies and some of their associated biological, social, and economic tradeoffs.

What that team did was they built a big management strategy evaluation model for the South Atlantic snapper grouper fishery, focusing on three species, red snapper, gag grouper, and black sea bass, and the whole of South Atlantic region, which they divided into three areas, a northern, central, and southern area, and into inshore, nearshore, and offshore areas, split at the thirty-meter depth line, and then imported all the information from the stock assessments as sort of the starting setup for the MSE model, and so it was for those three species.

It took in all that information, and it also took in essentially, you know, the stock assessment methodology, and so on, and so it has models that mimic the behavior of the BAM model, because they're running these management evaluations through the whole process, and, in terms of what they were looking at, so they had a number of different operating models, and so the models that basically model, you know, the fishery system, base model low and high natural mortality, and they looked at a scenario of reduced historical recreational removals, and what this means is they looked at what are the implications if we actually have overestimated the recreational landings, and so this comes out of the concern about the MRIP program and the news that it may be overestimating removals by as much as 40 percent.

One of the scenarios they ran was to say, okay, well, let's assume that the historical removals, recreational, were 40 percent lower than the data in the current stock assessments show, and let's see what the implications are for the management of the fishery, and so does this really change the picture or not?

It looked at effort creeps, and so where basically the effort is constantly increasing, as a result of technological development, and it also ran scenarios looking at using long-term recruitment information, or just the most recent recruitment, in projections and management, and, of course, the background there is environmental non-stationarity and the idea that things have changed, and I'm explaining these in so much detail because it shows you the sorts of questions that one can ask of the management strategy evaluation. We can ask questions about environmental change, and we can ask questions about what if our data are wrong, and so we can try, you know, different data, if you like.

Then it looked at a variety of management scenarios, and that included sort of full retention, nearshore fishing only, offshore fishing only, and a number of performance metrics, probability to rebuild, long-term landings, short-term landings, and the fraction discarded, and so you can see there are no explicitly social or economic performance metrics in this yet, but what this first stage of the MSE did was build this whole model, interact with, you know, the council and some stakeholders around this, and so the framework basically is there now.

There was some stakeholder involvement, and so there were multiple presentations to and consultations with the Snapper Grouper AP, the SSC, and the council. There ran some -- There were some public scoping sessions, and there was a technical working group, and I put that in parentheses because that's really not technically a stakeholder interaction, but that was a forum that brought together, you know, at least scientists and managers from the region in the building of that MSE, and so there was some.

The next steps are so there's the situation assessment, which is the smallish project that I'm reporting on here. There's an upcoming project on recreational angler attitudes and preferences in the South Atlantic snapper grouper fisheries, specifically focused on the recreational anglers, and basically filling out information that will eventually help the MSE to better represent the attitudes, preferences, and behaviors of recreational anglers and add some, you know, social and economic performance metrics to the MSE, and there's currently an RFP out from the council to continue development of the MSE, and so those two projects probably will proceed, to an extent, in parallel.

Okay, and so let me get to the meat of the project that we're doing at the moment, and so a situation assessment is something that sort of comes out of participatory processes and decision-making, something that practitioners use essentially to understand, you know, the perspectives of different stakeholders and their previous experience with engagement in participatory processes and so on, and so it's really meant to help us design the process going forward.

It's a qualitative exploration, and, in this case, to understand the breadth of perspectives within the snapper grouper management context, and in relation to the fisheries management discard mortality and the MSE. We've done that as a qualitative interview study, basically semi-structured interviews, using a general interview guide approach, and some elements of that interview guide were informed by a theoretical framework called the reasonable person model that I'll explain in a moment.

Interviews, we did twenty-seven interviews, with a wide range of fisheries management stakeholders, and this is focusing on people who have had some interaction with the MSE, and so this focuses on people who are fairly engaged with the council process.

Zoom interviews, and the information is being analyzed using conventional content analysis, and this is a quick overview of the interview guide, and so we asked them about stakeholder identity and their involvement with the South Atlantic snapper grouper fishery, perspectives on the fish populations, management concerns, science, specifically about discard mortality experience, ideas to reduce discard mortality, management engagement, and so prior experience they had in participating in management decision-making, views on the MSE, and so a lot of the first part here is sort of background, to help us better understand how they view the MSE.

Familiarity with the MSE, the role in management, and we also asked them about ideas for, you know, what should the MSE look at, what would be good performance metrics and so on, success criteria, and so performance metrics, and we asked them about -- Since we're at the moment where we have a new federal administration, as most people have recognized, we asked them about what they thought the impacts of that might be on the management process and whether there are things that, you know, we should look at in the MSE as a result of the situation.

Okay. Content analysis, I'll skip over that, in the social science group here, but I briefly want to talk about the reasonable person model, because the idea here is that people are more likely to engage constructively, make informed decisions, and cooperate when they operate within a supportive environment that meets their information needs and fosters reasonableness, and so it's not about judging whether people are reasonable, and it's about looking at the environment, does the environment provide them what they need.

We used that framework to develop some of the interview questions, and I'll come, at the very end of my presentation, and talk about our preliminary take on that, and, basically, so there are three sort of categories of informational needs that the reasonable person model postulates, and one is people should be able to build mental models, they should feel that they're being effective, i.e. they can effectively engage with the process and effectively use those mental models, and meaningful action that goes a bit beyond that, because it says, so me engaging with this process actually leads to meaningful outcomes, including sort of change, and so it sort of has three areas that I'll talk about in a bit more detail later.

Okay, and twenty-seven interviewees, from a wide variety, and we had fishers from all sectors, and we talked with council members, SSC members, SEP members, and so we had some scientists, NOAA scientists, and so you can see we sort of tried to get input from a very wide range of people.

I'm giving you some preliminary results, and, basically, I'm presenting that in the order of the interview guide, and I'll highlight some emerging themes, and I'll point out, again, that the analysis is still ongoing, and so it's a little incomplete, but I think it gives you a good flavor of what we're getting out, and then I'll come back to the reasonable person model.

The changes that people perceived in the fishery, in the snapper grouper populations, was decreased abundance for essentially all species except red snapper, and they attributed that to a wide range of causes, development, climate change, habitat loss, water quality, species migrating, increasing fishing pressure, discard mortality, and, you know, increased efficiency. They also, of course, perceived increased abundance of the red snapper, and they mostly attributed that to regulations, and what they called the closures.

The industry makeup is a very rapid increase in private recreational boats, some growth in the charter sector, and a reduction in the headboat charter sector, and, of course, increased efficiency, as a result of technological development. Perceptions of the council management of the fishery was, overall, they felt that the council was doing what they can under a limiting system, where data are perceived as sort of poor or old, and decisions are ultimately governed by the Magnuson-Stevens Act. They commented on a sort of slow, bureaucratic process, where decisions take years, and felt that was sort of the opposite of dynamic nature of fisheries.

Some decisions, or lack of timely decisions, weren't well understood. Regional differences they felt weren't necessarily well addressed. The council -- Some said the council should be nimbler, adapt more quickly, and some felt it should be more proactive, or more precautionary, and then these are some of the big-picture sort of issues with the management system that they perceived, and one was that the MSA is seen as restrictive, yet open to interpretation, and in need of reauthorization to be updated to the times, address definition and phrasing.

The private recreational sector has increased greatly, but was perceived by at least some of the respondents as less closely monitored and regulated than the commercial or charter sectors. Some stakeholders perceived a lack of political will to actually monitor and regulate the recreational sector and address the discard mortality issue.

Many stakeholders appreciate the use of science, but feel that it's hampered by use of poor, old data and that pertains to many things, recreational removals, discard mortality estimates, not accounting for changing environments, and underfunded. Some questioned the scientific management targets, and this was particularly focused on the red snapper and this idea that, well, there's enough biomass, but now they want us to rebuild the age structure, and so there was some discontent there, and I'm giving you all of these, and I'm not discussing the science of any of this. I'm just telling you what we're getting in this study.

Management of red snapper discards was perceived to be stuck in a loop, and it needs new approaches, and a different mindset, and there were some intersectoral sort of equity concerns that were raised.

Engagement and participation, they said the decision-making process is complex and has a learning curve. Those immersed for years are comfortable with it, but newer folks, or those in the periphery, find it difficult to grasp, and so people who only occasionally attend meetings, give public comment, and so on. Interacting through public comment in particular feels generally less impactful than other more direct forms of involvement, and sometimes they feel that public comment is just going through the motions, and so it's sort of a formality, but they don't really listen.

Now, getting to the MSE, and so many were unsure about what exactly the role of the MSE is in this process, so they variously thought it was related to improving stock assessments, improving data, or using a multispecies approach, and there was actually a sense, and some people were interviewed, that they initially felt really excited about it, but then felt, well, no, it's not doing what I thought it might do.

Those most familiar with the MSE find it at least somewhat helpful. There was skepticism about it, since no new data are being used, and only three species are considered, and so they felt it doesn't address the concerns that they have about the data and the stock assessments and so on going in, or this idea that, you know, we've also heard about, I think, in other presentations here, that maybe being completely species-focused is not enough, and so they felt that, even though it had that multispecies in there, not enough of the species were in there, and it was sort of still too separate.

Some are hopeful that it can help get management unstuck. Some doubt the political will to implement identified strategies, and this comes back to what we heard earlier. Some believe it's

too complex and will further erode people's trust, and those not involved in the AP or SSC or council were not familiar with the MSE, and so, so far, it's only really known to the people who are quite engaged.

Then they had a bunch of MSE scenario ideas, and I don't want to actually go through these, or all of the twenty-six, and I think just to note that there are plenty of ideas out there. Some are already essentially implemented, and some are different, and one of the things that will have to happen is some systematic process of working with the stakeholders to consolidate these into core things that can be explored, because you can't -- You know, you can't do everything, and, actually, the more well-defined the scenarios are that you're looking at, the more effective, actually, the MSE becomes.

There are also a number of suggested performance metrics, and some are straightforward and already used, but there are also social ones, like fair and equitable access. I particularly like the last one, realistic results. There's quite a bit to unpack there.

Perceived impacts of the administration change, and so most people considered them unknown. There was a very, very strong sense of uncertainty among just everyone that was interviewed, and the possible impact sort of mostly fell into two categories, and so the idea that more flexible regulations, fewer regulations, could get management out of its current rut.

People mentioned executive orders, less rules, the ten-for-one, but then, on the other hand, there were -- People were concerned about, you know, losing staff, losing funding, the idea that actually the regulations may become less really useful than they currently are, and they, you know, hold up in possibly, you know, changing regulations, where they have to be changed. Also, they pointed out that this may influence who gets appointed onto the council, and so they're thinking about a variety of things.

The MSE generally was not seen as an opportunity to look at those potential changes from the new administration, partly because they felt it added complexity and said, well, leave politics out of it, and so -- Because, in principle, one could run scenarios in the model that would be quite radically different from what we're doing at the moment, and it would be, you know, an opportunity to look at some scenarios that are quite different, but people didn't necessarily see it that way. Some were interested, for example, in running a scenario where the red snapper fishery is quite widely opened.

Okay, and that gets me back to the reasonable person model, and so the question was does the MSE help people think clearly and make informed decisions, act effectively, or reasonably, and building mental models, and so people felt that MSE helped with model building, but only for those who were most involved in the process.

There were issues about understanding the MSE, and so particularly those not closely involved with management were really unclear about the purpose of the MSE, and had very conflicting expectations about its scope and function, and there were widespread issues with science and data, use of data in assessments that stakeholders already view as being old, poor, and so on, or conflicting with their own observations, and it reduces their trust in the MSE, and so that is something that, even if in principle people feel it helps them understand what is going on, to understand the MSE, if they have that lingering doubt about what goes into it, that remains a sort of mental -- What's the word, disjoint, or whatever. Dissonance. That's what I was looking for.

Okay. Being effective, and so complexity is an issue. Technical language and complex science creates a barrier to asking meaningful questions of the MSE, even for those who are motivated to participate.

At least some stakeholders are motivated to learn more about the technical aspects of the MSE, especially when scientists are engaged and receptive to learning about stakeholder knowledge, and so this was a qualification that we got a few times, where people said, yes, you know, I'm interested in learning more, but, you know, are you guys interested in learning more about, you know, what I know, and so it's a sort of two-way street.

Slow process, some feel disheartened by the slow timeline between science and management, and that, you know, pertains to the MSE as well, which of course is a multiyear undertaking. Engagement limitations, time constraints, information overload, lack of rapport with managers, limited stakeholder capacity to engage, even when opportunities are available, and then meaningful action, and this is where it becomes particularly interesting, and because that is constrained firstly by the constraints imposed by the MSE and the council process, and so legal and bureaucratic constraints are seen as limiting what stakeholders and managers can do.

Nonetheless, people felt it was important to decision-making, and the importance of the council was highlighted as what, you know, what is the closest to sort of industry representation in that process, and so people appreciated that. Political influence, the ability to influence management through political means outside of the council process, varies among stakeholder groups, and it brings a sense of disempowerment to some.

Feeling unheard, and stakeholders not closely involved in the council process often feel unheard, perceiving the public input process as dismissive, or symbolic, and importance of participating, and this is interesting. Despite frustrations, stakeholders still see the importance of voicing their opinions and engaging with the process.

Okay, and I wanted to bring this up, because I find it very helpful, and there are some -- To better conceptualize some of the constraints here, and this is modified from a diagram that Stephen Jaffee, who is a natural resource policy scientist, has drawn up for other purposes, and it's the idea that, as people engage in this process, there's an inside game and an outside game, and the inside game is what is done in the formal fishery management process, and, you know, it's laid out by the MSA, NMFS, the council, and so on, and so the ways you can engage in that process.

Then there are the things that you can do outside, by influencing larger-scale, you know, politics, basically, and, depending on whether most of the action is in the inside game, or a lot of the action is in the outside game, it influences the degree to which people feel that engaging in the inside game is meaningful, right, and so, if most of the decision-making happens in the inside game, then it's very meaningful to engage in that, but, if a lot of the decision-making happens outside, it becomes less meaningful to be engaged in the inside game, and we have heard that, you know, constraints that people perceive, of course, emanate from both of those games.

It's the constraints imposed by the formal process, but also by what people can get by going around the formal process, and engaging in the outside game, and I think this is important, because we talk -- Normally, we only ever talk about the inside game, although we also are, you know, of

course, cognizant that there is an outside game, but I find it very useful to think about both of those, and that's why I put this diagram here at the end, and so implications for the future of the snapper grouper MSE.

Firstly, I think it's important to provide opportunities for extended in-depth engagement with the MSE, and, so far, that really hasn't happened. There have been presentations, and there's been feedback, but nobody has been really, you know, engaged with it in an extended, more in-depth way, and so the proposal there is to have essentially a working group of representatives from the different stakeholder groups and organizations to engage in this next stage.

Systematic use of the MSE to explore implications of concerns about data quality, discard mortality estimates, and so on, because that is something that can absolutely be done, and, in fact, the MSE process, that happened over the last two years, did some of that, and that's why I mentioned, you know, that it did look at does it matter that maybe we overestimated recreational removals by 40 percent, and it turns out actually it does not matter all that much, but so it can do that, but I don't think people have really even realized, and recognized, that that has been done, that can be done, and that's because there just hasn't been that extended in-depth engagement.

Stakeholder input to consolidate scenarios and performance metrics, interpret results, and promote identified strategies will be quite important, but, also, and this comes back to the last part, future role of the MSE depends in part on how it's used in the formal management process, and possibly outside the formal management process, and so there are some things that we can address by, you know, better engaging people in the MSE, and there are some things that we cannot -- That we cannot address, but that will be important for how it can be used, and how it's perceived, and that brings me to the end, and I just really want to thank everyone who participated in this study and the council for funding the study. Thank you.

DR. SWEENEY-TOOKES: Thank you, Kai. Really interesting presentation. Thank you for that. Thoughts for Kai? We don't have any guiding discussion questions, necessarily, but thoughts, or feedback, or questions?

MR. WALSH: This is Jason. Thanks, Kai, for this presentation. This is really helpful to see, and then helpful to see in the SEP, and think about it in that context. I was curious, or I'm interested in the possibility of looking at the ability of MSE to change or look at -- We're always trying to minimize the terminal year to current year. I'm curious if we have -- If it has a possibility to look at that, because that seems like something that may be increasingly hard to minimize, and not just in this political climate, but in general with data-poor species.

DR. LORENZEN: Yes, and absolutely, and, I mean, those are sort of really, I would say, common traditional uses of the MSE, is looking at the implications of, you know, quirks in data and assessment methods and so on. No, and absolutely that is something that can be done.

DR. SWEENEY-TOOKES: I see no other hands raised in the room. If there are questions from anyone at home.

DR. COLLIER: This is Chip, council staff. Thank you all for taking the time to look at this. Management strategy evaluation I think is -- It's going to be what we use a lot in the future, and, unfortunately, like Kai said, the initial part of this is very long, and slow in developing, but the

outcome, hopefully, is something that is going to be more rapid, right, and you set up the tool to do these analyses, and then you can maybe look at certain pieces of information, to make sure your management is on the correct objectives.

I'm just wondering what objectives should we really be looking at in a management strategy evaluation for the snapper grouper fishery, thinking on the social side and economic side. I've really struggled with that. Up in the Northeast, they did have an economic model for the recreational fishery, when they had done it for I think summer flounder. They didn't use it for their management strategy evaluation, but they have used it since, in some analyses for black sea bass.

That's great that they have that economic analysis up there, but I'm thinking, you know, a lot of social and economic drivers for the recreational fishery I think are going to be important, and I don't know if we're getting those included right now, and getting your feedback on what you think we should be trying to gather information on would be extremely useful.

DR. SWEENEY-TOOKES: Thank you, Chip. What should we be trying to gather information on? SEP, what say you?

DR. COLLIER: This is your turn to make your voice heard.

DR. CRANDALL: Can I ask a clarifying -- So do we mean like indicator type of things, or targets, on the social side? This may be clear to others, but just wrapping my head --

DR. COLLIER: No, and indicators and outcomes, right, and it's -- Both I think are important. The MSE does -- You can incorporate both of those in there, right, in your evaluation. It depends on how you want to do it. We just -- Right now, I don't feel like we've had enough guidance, and enough thought, through this process, because we haven't really seen an end result, and it's hard to get all the way to that end result and say, oh, this is what we should have been looking at, but it's expensive to get there, and hopefully we can imagine what our final result should look like, and then we can be asking the right questions along the way.

DR. CRANDALL: I'll throw something out, and you can tell me if this is along the right lines, because one we talk a lot about in Florida is satisfaction. Are they happy with their fishing experience, for example, and is that the kind of thing we're thinking of here?

DR. COLLIER: Yes, and so I think satisfaction is a good one, right, and so how do we evaluate satisfaction? I mean, that could be a component of the evaluation, but then we need something to quantify, within the MSE, of what is satisfaction, and, Kai, if I'm taking them on the wrong path, just let me know.

DR. LORENZEN: No, and it's fine.

DR. HUNT: This is Kevin. This goes back to that expectancy disconfirmation theory that I was talking about, and what are the expectations? Then you've got something to judge satisfaction on. If you just do a post hoc, people coming off a ship, or at the end of the year, how satisfied were you, and you have no idea what they were looking for, and so I think, if you can identify expectations, and tie satisfaction there, you've got something measurable, and you can look for gaps between -- You know, because it's basically a gap analysis in between, you know, what's

performing and what their expectations are, and the lack of a difference between performance and expectation is satisfaction.

You know, the positive disconfirmation is exceeding satisfaction, and negative is underperforming, and so I think, if you could somehow get at expectations, it will help you down the road with satisfaction metrics.

DR. COLLIER: Yes, and, just to build on that, what we've included in the past, or tried to include in the past, was like number of fish in the population that are over a certain size, and that's getting at, you know, does somebody want a trophy fish fishery, and that might not make everybody happy, but, within the model, you simulate, all right, this portion of the population is going to be over a certain size, and, therefore, does this potentially make the -- Would this satisfy people in the fishery, and, you know, not everybody is going to catch that trophy fish. It's not always possible, but the goal is to simulate what would happen, and hopefully, under different management scenarios, can you actually get to that goal, in a modeled world.

DR. HUNT: I would say, you know, because I've asked this question in a couple of studies before, what's a trophy fishery? What's a trophy fish? Who is making that determination, because, if you ask the angler, somebody who is new coming into the fishery, a smaller fish is a trophy, and then somebody who has been in the fishery for twenty years, and so, you know, how are you making the determination of what a trophy is? Is that a biological determination? Is that a socially-driven one? You know, getting at stuff like that may help, you know, from a management perspective.

DR. SWEENEY-TOOKES: Scott Croson. Scott, we are not -- Go ahead.

DR. CROSSON: Can you hear me okay?

DR. SWEENEY-TOOKES: Yes, sir.

DR. CROSSON: Okay. I'm sorry. The way I would think about this, from the results of -- From what I have seen so far with this MSE, and I am on the technical advisory committee for the MSE, the results of both this MSE, and also the Shertzer et al. paper that came out last year, show that there is clearly some kind of tradeoff that has to happen between effort and retention, and, the more effort that you allow, particularly in the recreational sector, the more discarding you're going to get, and the lower the amount of retention that people are going to be able to have for snapper grouper species.

Generally, it seems to be also detrimental to the welfare of these species as well, because they're not particularly well-suited for being a catch-and-release fishery, given the barotrauma issues, and so I think, whatever recommendation that I would try to give to the council, or to the stakeholders, is to have a frank discussion about this, and figure out how you could quantify that, and there's going to be a number of different results from the different researchers that are going out there, and hopefully from the MSE project continually in the future.

Figure out how you want to quantify that tradeoff, and figure out what people are willing to tolerate, in terms of discarding, knowing that it's going to reduce the ACLs, and reduce the amount of fish they can keep, and that's a hard thing, because when I say, you know, reducing effort, reducing effort means making hard decisions about who and when people can access the fish, and

so I don't know what the ultimate outcome of this is, but that seems to be the essence of what's coming out of this project and other projects similar to this.

DR. SWEENEY-TOOKES: Thanks, Scott. Adam Stemle.

MR. STEMLE: Hi, everyone. This is Adam at the Southeast Regional Office. Something sort of related to what Scott just mentioned, and possibly getting at what Chip said for the objectives we should be looking at, something that comes to mind here is we often struggle with how to quantify effort shift between different modes of fishing, and I'm not talking about, you know, private vessels versus for-hire.

I'm talking about bottom fishing versus trolling, things like that, and so, when you are talking about tolerances with retention, and discarding and things like that, something that we also need to know, and possibly something we would like the council to focus in on prioritizing possibly for a research study, is quantifying the effects of effort shifting between these modes, and so, if there is a reduction in the overall retention limit for a snapper grouper species, are more vessels going to shift their effort towards something like trolling for pelagics, like for king mackerel and things like that, and so being able to understand and quantify that would be extremely beneficial for management evaluation in the future. I'm not sure if that exactly ties into this correctly.

DR. SWEENEY-TOOKES: Adam, I think that takes us right back to that first item on Kai's slide. I think it does, that there needs to be an opportunity for extended in-depth engagement with representatives from different stakeholder groups, and so, yes, right on target. Thank you.

DR. CRANDALL: Are we ultimately getting to what does success look like on the social side, or what are some of the things, and I'm still thinking through it, because I'm thinking through the satisfaction, and it's very true that there's a lot that goes into that. Is it understanding what the motivations are of the different people who are in this fishery, and therefore what we should be targeting, in terms of do they want to catch a lot of fish, and how many will they catch, and how many will they keep, and what size are they, and trophy fish, for example.

I saw that fair and equitable access came up in Kai's presentation, and I know someone mentioned sort of tradeoffs of access versus, you know, catch, keep, et cetera, and so are those the sort of things we're looking for, that we would incorporate in here?

DR. COLLIER: I think so, but, Kai, you speak up and see if we're on the right path. You're going to be leading this extended -- So we do have a next phase of this, where it is going to be a lot more in-depth engagement, with focused on the recreational side, just knowing that that's going to be the challenging side that we have to address. The council has been working on the commercial side for years, and so we're going to focus on the recreational side for this, but it can be adapted to include commercial objectives as well. It's just sometimes the recreational voice gets swamped-out when you do all sectors at once.

DR. LORENZEN: I would maybe add to that, and so one of the things we have proposed to do is to have that working group, and then there will be surveys that are meant to get more at the, you know, attitudes, behavior, satisfaction, and we'll start with a review of everything that is known, and I want to point out there is a big -- Quite a big literature on angler satisfaction and motivations

and so on, and a fair bit of work that has been done, you know, in the southeastern U.S., and so our first step is to review all of that.

MR. WALSH: This is Jason. My mind goes to like a discrete choice experiment design, if you're trying to find willingness to pay for length of trip, and size of fish caught, and there's been a lot of research on that to look into.

DR. LORENZEN: That's one of the things we have on the list, and so part of the question there is that becomes more effective if we have, you know, a small number of really well-defined scenarios, and so you can't really do that if you want to test twenty different things, and so we want to use that working group to narrow down exactly what are the key things to look at.

DR. SWEENEY-TOOKES: Good. Well, lots of good feedback. We look forward to updates from Kai, but, at this point, maybe we can close this agenda item and move on to the next. Thank you for being here and presenting, Kai.

DR. LORENZEN: Thank you for all the good feedback. Thank you.

CLIMATE READINESS PROJECT UPDATE

DR. SWEENEY-TOOKES: All right. Next up, we have Lara Klibansky, and she's going to be presenting to us on her climate readiness projects updates. This will be a virtual presentation, and so give us a minute as we get things switched over.

MS. WIEGAND: I'll get your presentation pulled up, Lara.

MS. KLIBANSKY: Thank you, Christina. I've switched over to my phone because the audio is a little bit better, and so Christina has agreed to run my presentation for me, which I appreciate.

MS. WIEGAND: We should be good to go. Take it away.

MS. KLIBANSKY: Awesome. Thank you so much. Good morning, everybody. Is it still morning? I think it is. I appreciate the opportunity to update you today on the council's climate projects. I've had the opportunity to meet and work with some of you, but, for those who don't know me, my name, again, is Lara Klibansky, and I've worked in fisheries for about twenty years, mostly in North Carolina, with the Division of Marine Fisheries.

Before I came to the council to coordinate these climate projects, I served as the Marine Fisheries Commission liaison, and a lot of the issues that I'm hearing you guys talk about today are really familiar from that time working with the commission, and I think you'll see a lot of overlap in these projects, as I go through them.

Today, I'm going to start -- Since this is our first interaction, and it's the first time I've had the opportunity to speak to you about these projects, and there's been a lot of work on climate effort, to work towards sort of more resilient fisheries, looking at future uncertainty, and, a lot of times, council members, or AP members, and you as well, probably get sort of bits and pieces of that, and so, today, I'm going to go over three of the initiatives that I personally am working with, as

the coordinator, and just to give sort of more context for those in the bigger picture, and hopefully you'll hear some things that you've heard, and it'll give you some kind of a framework to hang those in, and then I'll go into the South Atlantic climate projects, and then I'll finish up with the timeline.

All right, and so, as with any project, and certainly with these, there are a lot of acronyms that are associated with these initiatives, which you may or may not be familiar with, and so I've included them in parentheses on the slides, for your information, but I am going to try to steer clear of them, although I probably will use a couple, just because the names get really long. All of the acronyms that you'll see in the presentation have been added to the council's list of acronyms, and so you can look those up there in the future as well.

Also, we're going to be going over projects, initiatives, and teams that involve different management agencies, and so, just to help clarify, I've included -- In this blue bar on the right, you'll see the logos for all of the management agencies who are engaged in a specific project or team as I go through them.

The first initiative is the East Coast Climate Change Scenario Planning. This occurred from 2021 to about 2023, and this was an effort between the east coast fishery management organizations, again whose logos you can see here on the right, and they collaborated, in this process, along with several hundred stakeholders from across the region, and, during this process, they essentially asked what governance and management issues needed to be addressed to account for increased uncertainty, to work towards fisheries that are more resilient to future change.

The actions that were identified during this process were gathered and prioritized into a document called a potential action menu, and this potential action menu is housed on the Mid-Atlantic Council's website, which you can access through our Climate Resilience webpage on the South Atlantic Council's website, and that can help -- This action menu can help guide each agency as they work towards implementing the actions that were most appropriate to their region and circumstances.

This initiative wrapped up in 2023, and it resulted in the formation of the East Coast Climate Cooperation Group, and this group is composed of leadership from all of these participating organizations, both in the Northeast and Southeast, and their primary responsibility is collaboration, and so they work together to estimate resources, support coordinated implementation, and also to prioritize the various actions that each organization undertakes. For the South Atlantic, John Carmichael represents the group, the Southeast Council.

In the same year, this scenario planning initiative wrapped up, 2023, NOAA announced funding to establish the Climate, Ecosystems, and Fisheries Initiative, and so, very basically, CEFI leverages advanced ocean modeling techniques to develop regionally-specific information and advice that's needed to support decision makers for things like more effective resource management, industry planning, and also community adaptation.

An important part of this is ensuring that the science that's being produced is relevant to the needs of the decision makers, like the South Atlantic Council, and so, to that end, as part of this initiative, they began something called a CEFI Decision Support Team.

In the Southeast, this decision support team includes representatives from NOAA, from the Gulf Council, from the Caribbean Council, and also from Atlantic States Marine Fisheries Commission, and the South Atlantic, of course, and so this group works together to identify the needs of the manager agencies and to make sure that the products that are coming out of this research can best support those.

This initiative has been impacted by the changes that are happening at NOAA, and so I do anticipate that what I've described will be a little bit different as we move into the future, but that work is hopefully going to continue, and it will be really interesting if it's able to.

The same funding that supported this initiative provided for funding for the council's climate projects, and so these projects, which I'll talk about in more detail in a second, are focused on challenges that have been identified by the council, and in some cases can be addressed using those actions that were identified during the scenario planning effort.

Each project has an oversight team, and they serve sort of three main purposes. First, the oversight team provides regional expertise and support to the contractors. Next, they ensure that the deliverables meet expectations, and, finally, they serve as the method of coordination with our management partners who are conducting similar work in different regions.

All right, and so that's sort of the quick description of these three different initiatives and their supporting teams, and so now I want to show how they interact. As I said, the scenario planning initiative identified and prioritized the actions needed to make fisheries more resilient in the face of increasing uncertainty, and I do want to point out that a lot of the things that were discussed during the MSE presentation just a few minutes ago were similar to items that were identified through this scenario planning initiative, and so there's a lot of overlap in the discussion there.

The Climate, Ecosystems, and Fisheries Initiative and the South Atlantic climate projects then provided the pathways for the council to implement these actions to address existing governance and management challenges, and so this injection then set off many projects, all very closely linked, and performing similar work in the different regions, and, because of the coastline impacts, and that potential overlap, say with like the cross-jurisdictional issues, it was apparent that coordination would be really key to ensure that these initiatives are effective and efficient and are not redundant.

To do this, these three teams, individually and together, provide that necessary communication and collaboration between the different agencies, and so you can see, here on the right, the number of agencies that are collaborating at different levels on these projects, and they provide the agencies -- These groups provide the agencies with the ability to coordinate time and resources, to find mutually beneficial opportunities to collaborate, and also to ensure and increase mutual awareness, given the potential impacts of any management and governance changes that may come out of these efforts.

All right, and so hopefully that provides -- That's a very quick overview of sort of very big programs, but hopefully that provides you with some kind of framework for how these different initiatives are interacting with each other.

I'm now going to move on to the council projects, and we'll focus on those next, and so here you can see the proposals. You can see the four projects for the proposals that were submitted to NOAA back in March of 2024, and, over the past year, the council staff have been working with NOAA Fisheries to complete the proposal review process, and so two of these projects are now underway, and two hopefully are very close to being done. I know staff have submitted revisions, I believe, last month, and so we're just waiting on that final approval to get started on those.

Our first project is climate response readiness review, and the goal of this project is to identify ways the council can be more responsive to environmental drivers of risk, and to make progress implementing the priority actions from the scenario planning initiative that I talked about before, and so I'm not going to read through these objectives, but hopefully you can see the overlap between the discussion that was just had at the MSE level, and I'm sure you've had before, that deal with reviewing, or evaluating, some of the structure, the processes, and the data use in fisheries management and how we can make those better.

The results of this project, like I said, are to help the council move actions through their process more quickly, to be more nimble. A possible outcome could reduce implementation of management from the current two years down to two meetings, and that we've seen accomplished at the Mid-Atlantic Council, and this specifically is where working with our management partners directly on these projects is essential, so that we can hopefully learn from one another and make progress more quickly. This project is still in development, and hopefully the RFP is going to be going out in mid-May. Fingers crossed.

All right, and so next up is Project 2, which is management strategy for data-limited fisheries, and so, as I'm sure you're all aware, the South Atlantic Council manages a lot of fisheries that are considered data-limited, and this project aims to hire a contractor to implement a stakeholder-driven management decision tool to develop management advice for a data-limited fishery.

Staff identified two possible candidate species for this project, which were rock shrimp and wreckfish, and I'm happy to say that we now have a contract in place for this, and the project is going to be focusing on the wreckfish fishery, and so the objectives of this project are to have a data-limited stock assessment completed for wreckfish and then to use a stakeholder-driven management decision tool to develop, and then recommend, catch-level management strategies to the council. As I said, this has a contract in place, and the oversight team had our kickoff meeting in March, so this project is now underway.

Project 3, this is a project focused on updating spatial distribution and essential fish habitat for species managed under the Snapper Grouper, Coastal Migratory Pelagic, and the Dolphin Wahoo Fishery Management Plans. The objectives are to update spatial information for as many of these species as possible, and these updates will then be used to provide recommendations for future changes to the EFH designations. One cool thing about this project is that we expect it to be the most substantial update to the EFH designation since they were first approved back in 2000, and so that's going to be really interesting, to see how that plays out.

The updated spatial distributions will also help identify these situations where cross-jurisdictional management, or government changes, may be indicated, and it could inform those types of discussions between the councils.

All right, and so, for this project, we do now have a contractor in place, and we, again, had our kickoff meeting for the oversight team in March as well, and, because of the far-reaching distribution of some of these species, and the cross-jurisdictional impact, the oversight team for this project includes primarily South Atlantic staff, but also includes representatives from the Southeast Fisheries Science Center, the Atlantic States Marine Fisheries Commission, and the Mid-Atlantic Council.

All right, and probably the most pertinent to this group, is Project 4, which is communicating climate impacts with fishing communities, and this project is focused on improving the resolution at which the council describes and manages social impacts of fisheries management decisions, and so we currently describe fishing communities at the county level, which can be really insufficient to understand the real impacts of distribution shifts in fisheries, or increased flooding on infrastructure, for example, and getting a clearer picture of where these fishing communities are located, collecting information about how those communities prefer to engage with the council, and identifying their specific challenges will help in the evaluation of the council's role in mitigating these challenges.

As I was listening this morning, during Christina's presentation on the application of social science to achieve management goals, I felt like this project really speaks to those challenges, and recommendations, and so this project is still under review by NOAA, but we are hoping to get it up and running, hopefully this quarter, and, speaking of quarter, I want to go now to our last slide and look at the timeline.

On the left, and so I'm going to go over this slide and describe what you're seeing here. On the left, you can see the four projects, but I've shortened their names, just to keep it readable. The timeline is broken up by year, and each year is broken into quarters, and so you can see that the full timeline spans from the middle of 2024 to about the middle of 2027.

Projects 1 and 4 are purple, indicating that they are in those final stages of development, and you can see that we, again, hope to get those started sometime this quarter. Projects 2 and 3 have a green progress bar, indicating that these projects have begun, and, as such, we have more specific detail for these two timelines, and so you'll see there are light-orange dots and dark-orange dots. Those light-orange dots, that are sort of in the middle of the timeline, identify points in the timeline when the project will receive either SSC or an AP review and input.

At the end here, where the dark-orange dots are, that indicates when we expect the project deliverables to be presented by the contractors to the Full Council, and so you can see that we are expecting all projects to be completed by the end of June of 2027, and it's at that point, when these projects are complete, that the implementation will begin. All right, and so that is all that I have.

It's sort of a lot of information, but hopefully that gave you sort of a sense of these projects that were just getting started, and I'm happy to take any questions, but I am having a hard time hearing, and so maybe, if Chip is in the room, I could defer questions to him, or, if I can hear them, I'm happy to answer them.

DR. SWEENEY-TOOKES: Thank you very much, Lara. A lot of interesting work happening here, and I'm sure we will all look forward to hearing updates, as these things progress. SEP, do we have questions for Chip?

MR. WALSH: This is Jason. Great work, Lara, and great presentation. Thank you for that. I had a question on Project 3. Are these the three species groups that that project is working on?

DR. COLLIER: Yes, and so it's the three fishery management plans that the project is going to be working on. They're going to be investigating those three. It's not looking at all the species that we have EFH for, but this is the one that we likely have some independent data, and some commercial data, and recreational data that might be useful for updating information.

DR. SWEENEY-TOOKES: I have a question, actually, about Project 4. This is something that probably a lot of us in this room have some pretty direct experience with, and so will we be weighing in on any other part of this, or will we just be hearing the results at the end, as an SEP?

DR. COLLIER: The way that we have been setting these up is we have a project oversight team, and that project oversight team can have members of -- For example, one of them has Marcel is on the project oversight team, as the SSC chair, and so the SEP chair could be involved, or whoever might be appropriate from the SEP, and they could be involved on the project oversight team.

In addition, we would work out a contract, or, as we're developing a contract, we would request presentations be given to the appropriate bodies, and for this one, obviously, it's going to be the SEP is the appropriate body to have a presentation, to make sure that we're on the right track. It's not just the project oversight team giving guidance, but we want this to be out in the public, people giving feedback as needed, making sure that we're going to get everything that we want in the long run.

It's a challenge, not knowing who the contractor might be, on exactly how we're going to set things up, and we don't know what they're doing, and so we'll have more details, but, yes, we would like to keep the SEP engaged in this project.

DR. SWEENEY-TOOKES: That's great, Chip. Thank you very much. Any other questions or thoughts? I look forward to hearing the results of these, or hearing more about them, as they progress, and, Lara, thank you.

MS. KLIBANSKY: Thank you. Yes, my pleasure, and thank you, Chip and Christina, for helping.

DR. SWEENEY-TOOKES: Team effort today. Team effort, and we just appreciate all of you who are online and listening to the static that is our voices. I'm really sorry about this. We're going to move on now to our last agenda item before we get to the wrap up, and that's the South Atlantic Research and Monitoring Prioritization Plan, and this is for Chip as well.

SOUTH ATLANTIC RESEARCH AND MONITORING PRIORITIZATION PLAN

DR. COLLIER: Nothing like being the last agenda item. Brains are fried, and people are ready to go, and they're ready to eat lunch. I just want to -- I don't know if we've really done this in great detail in the past, but we had a previous research and monitoring plan, that was kind of just a hodgepodge of ideas that were laid out, trying to keep them minimized, to make sure that we could

get things accomplished in the South Atlantic, recognizing that we're resource limited down here, and we knew that we couldn't do everything, and so it was a pretty focused list.

This has been changed, and it's more a comprehensive list, and thinking more of a plan style and what we want to have in there and where we would like to go, and we have separated it out into -
- Or I've provided here a subset of all the research recommendations, research and monitoring recommendations, designated just for the SEP.

This is a requirement in the Magnuson-Stevens Act, that we develop this research and monitoring plan, and we're supposed to update it every few years. We update it every two years in the South Atlantic, even though you'll see it with a list of -- Or a labeled document that will be for five years. We try to do that five-year generally because we're thinking about planning for stock assessments, and so that five years gives us some windows for developing some research recommendations for stock assessments, but, then again, when you're thinking about any research project, it takes about five years for them to the idea to be recognized, get funding, do the work, get the work published, and so it takes a while for all that to go in place.

What we have here, if you just want to look at this, and I'll go through it in a little bit more detail, but think about this as you can provide comments back to staff, whether it's Christina, John or myself, on what you think is important. I know it's a three or five-page document, and it's hard to take it all in at this meeting, and then give all the comments that you want. I imagine you'll be walking down the street, and an idea will pop in your head, and please do not hesitate to send that to us.

Those ideas, I think, are very important, but I'll start off going through what I found to be the important research and monitoring objectives, or research and monitoring ideas, for the South Atlantic, starting off with the goals. I don't really have objectives in there yet, but I'm just in the habit of writing goals and objectives, and so that's why the "and objectives" are there.

Goal 1, improve understanding of social and economic dynamics of the South Atlantic fisheries, integrate social and economic data into fishery management plan processes, enhance stakeholder engagement through inclusive community-based research and citizen science, and maximize social and economic sustainable yield, and support resilience in coastal fishing communities. Do you think those are reasonable goals to have in a research and monitoring plan? Are there other ones that we should be thinking about as we develop this, or is this good enough for right now? Just remember, we'll be updating this in two years, and so we don't have to have perfection today.

DR. SWEENEY-TOOKES: I very much like where you're going with this. I do wonder how we're going to evaluate, measure, assess, maximizing social sustainable yield. I was trying to ask myself how would I do such a thing, and I stumbled a bit there, and so we just might want to think about that. Other thoughts from the SEP on the goals and objectives? Adam.

MR. STEMLE: Thanks. This is Adam. I was just wondering what exactly we mean by integrate social and economic data into the fishery management process, just because, obviously, we do incorporate it into the process, and so are we trying to say better, more robust economic and social data, giving more weight to it in the fishery management process? I guess I would just like to see that goal fleshed out a little bit more.

DR. COLLIER: I don't know if you'll understand what I'm saying, and hopefully you will, but think of this as a what's going on now, and, you know, what we're doing now is as important as what additional research we need, and so we do have the social and economic analyses that go into FMPs.

I believe that's critical. I'm not saying that they have to improve, but we still need to integrate them into the fishery management plans, and so that's why Goal 2 is listed. It's not that we need to do better. It's we have to do this. It's a requirement of Magnuson, and so that's why that piece is there. Now, if we want to improve that, by all means, yes, tell us that's the goal, and that's what we'll put in there.

DR. SWEENEY-TOOKES: Thanks, Chip. Scott Crosson.

DR. CROSSON: I guess maybe the answer will be the same, that this is something that's in Magnuson, but Goal 4 says maximize social and economic sustainable yield. I don't know what social sustainable yield is, but I know what economic sustainable yield is, and that's -- They both look like management objectives, and not research objectives, in here. I mean, the research objective is to provide the data and incorporate it into the FMP process, or whatever, but it doesn't -- Maximizing all the yield, that's something that the council would choose to do, or not do.

DR. COLLIER: No, and that's a good point. I will revise that one, in order to make it more appropriate. Maybe it's, you know, gather the information to develop optimum yield, focusing in on social and economic data to support resilience in coastal fishing communities, something along those lines.

DR. SWEENEY-TOOKES: Thanks, Scott. Eugene.

DR. FRIMPONG: Eugene, and, Adam, I don't know if this would make it more clearer, but can we paraphrase the Goal 2 to say continue to integrate?

DR. SWEENEY-TOOKES: For those at home, Chip is revising it on his screen. Goal 2 is now continue to integrate social and economic data. Thanks, Eugene. Other thoughts? Other input? Do you want to move further through the document, Chip?

DR. HUNT: I'm kind of stuck, because I don't know all the social and economic data that goes into the fisheries management process, you know, but what I've seen, and this is -- You know, it doesn't matter whether it's quantitative or qualitative, but what I've seen, in terms of the collection of the information, a lot of it is non-probability based, and so purposeful and snowball sampling is not probability based. It's not random, and so, if I could add something to Goal 2 to integrate probability-based social and economic data, and I don't know -- You know, because, you know, qualitative analysis is fleshing-out whoever they're talking to, okay, and so it's not a problem with the analysis of the data. It is a problem with the sample selection, and that's -- You know, I'll pass it on to Chelsey.

DR. CRANDALL: Who will slightly push back, because I definitely get where you're going, that there's, for example, different ways to do surveys, and things that are aiming for that sort of sample that sometimes aren't quite getting what we say we're getting, or think we're getting, but I would say this is sort of part of that conversation that came up earlier about, you know, talking about how

we integrate those qualitative data into these processes, and how we fit that alongside a system that is more used to doing more probability-based-type research and integration, and so I think I wouldn't exclude it from this one. I would just think it's we're not always quite sure how to integrate it yet.

DR. SWEENEY-TOOKES: If I can add to that also, I mean, that's sort of setting this up for a very specific type of research, and only that type of research and I'm not sure, in goals and objectives, that we want to delineate that so closely. Kevin.

DR. HUNT: Yes, and I'm not necessarily talking about that. I'm just talking about the representativeness of the people who are in the qualitative data analysis, that a purposeful sample -- You could be precisely wrong, in terms of representation, because you've picked a non-probability sample, that may not be representative of any of the populations you're looking at, but we are betting the bank on a lot of the results of that, where we don't really know is that representative of the fishery participants or not. I'm just more not arguing with the analysis, and the qualitative data, but how we pick the people to interview should be probability-based as, much as possible.

DR. CRANDALL: It sounds sort of like we're getting into let's make sure we're doing good quality and appropriate science, which I definitely would agree with, because I think -- I would say there's some spaces where maybe it is appropriate to intentionally target a group, or have purposive sampling, and so I think we're speaking kind of to the let's make sure we're doing good quality social science, and making appropriate conclusions and inferences, and does that make sense with kind of where you're going with it, that we're not misrepresenting what we're getting, for example?

DR. HUNT: Yes. I'm more worried about inferences beyond what the sample is telling, inferences beyond the sample, which happens a lot, and that is taken as truth, where it shouldn't be extrapolated beyond the sample in a non-probability-based.

DR. SWEENEY-TOOKES: I think we all agree that's a concern, always, and I think Chip did a nice job then of navigating this. You can see, down in red, he has now written, instead, "do good quality social and economic data collection", right, and make sure that it's a rigorous methodology, it is rigorous data collection, that is valid, according to the researchers and the people who are able to weigh-in who have that expertise.

DR. COLLIER: Christina and John will edit the text I have here, to make it much more appropriate. As a fledgling social scientist, I don't have the words quite yet.

DR. SWEENEY-TOOKES: Adam.

MR. STEMLE: This is Adam from the Regional Office again, and so thanks, Chip. Your point about Goal 2 was helpful, and I guess kind of a point I wanted to make, and I don't know if this is an appropriate thing to do, and so you all can correct me on this, but do we want to advocate for something like with respect to integrating the social and economic data into the fishery management process?

I think one of the problems we have, and that economists in our agency are trying to address, specifically like up in the Northeast, and even down here in the Southeast, with bioeconomic

modeling, is incorporating economic data into the stock assessment process, and things like that, and having our modeling processes run concurrently with each other, instead of evaluating biological conditions and then tacking on economic effects to them, or social effects, to those alternatives of, you know, biological management options.

I'm wondering if the issue is that we really need these management options to be working off of both fields, both the biological data and the economic data, to present management solutions as a whole, as opposed to two parts, and so, for example, when the council looks at any alternative for a specific change to an FMP, they have the changes based on what is needed from the stock assessment, or what have you, and then, later on in the document, they see the economic and social implications of those alternatives. Are we really looking for something like where we need the economic and social data upfront, to also guide the biological decisions? I guess I'm kind of rambling here. Sorry.

DR. COLLIER: This is Chip. I feel like there's been an intentional design to keep the stock assessment more related to the biology part of it and leave management on its own analytical track. MSEs kind of bridge those two, but that's, I think, an important difference between them. The reason that they are separated like that is because, if you incorporate some of the social and economic data, and let's say, you know, the social side says it's most important to harvest a fish of X size for the community, and that influences the selectivity of the stock assessment, and you will get a different maximum sustainable yield based on that selectivity.

Then having multiple maximum sustainable yields leads to difficulties in trying to get through all the systems, and so I see where you're getting, but it would lead to a much slower stock assessment process in the end, because they would have to run all the different models to begin to incorporate some of these different social and economic pieces that would be put into it. Does that make sense, Adam?

MR. STEMLE: Yes, it does.

DR. COLLIER: So what I'll do is now go into the different priority research areas, and then if -- We can gather comments on those, and then I will go down into the different FMPs, social and economic priorities by those. I'm not going to go into all these details, or read them out, but that's where I would like some input from the SEP. Maybe when they're traveling back, and hopefully not while they're driving, but, if they're flying, they could be looking into these and thinking about some different specific items to add in here, because I think getting some specificity helps with these research and monitoring plans.

One of the pieces where they are extremely useful is in doing some calls. If there's some research calls that are out there, let's say MARFIN or something like that, they might be able to take some of these research ideas and put that into their request for proposals, and, therefore, if we can identify specific -- As specific as we can, then we can potentially fill the data gap that's needed for the South Atlantic.

Going into the economic research priorities, obviously, we need to collect fishery dependence and revenue flow. It would be -- We need to analyze and get information on cost and earnings data. We need to understand the market dynamics and value chains, and then we need economic impact and contribution, and, with that, I'll go into the social and research priorities.

We need to work on the fishing community profiles. We need to understand governance and perceptions. We talked about that quite a bit, or the SEP has talked about that quite a bit, at this meeting. Understand the social vulnerability and resilience, and then human well-being and quality of life. We have a list of potential data sources that could be used for this. We have some new and enhanced data needs, looking at real or near-time social and economic data streams, social and economic logbooks, or add-ons for current reporting systems, and not saying that we need new ones, but there are some questions about how to do it, when we're talking about something like the for-hire fishery.

Ethnographic field work or oral histories. We need more documentation on the local ecological knowledge. Develop methods to inform long-term optimum yield in fisheries. The impact of changing fish distribution on the communities. Potential impact of fishing communities due to flood and storm damage. That was talked about by Lara.

We need observation and predictions of species distribution changes, and one that this is highlighting is looking at the changes along the coast with the greater Atlantic and South Atlantic regions. We need better linkages between those two different areas. Right now there's a pretty big shift in how data is collected right at that North Carolina-Virginia border, whether it's fishery-independent or fishery-dependent, and we need to bridge that gap a little bit better, and then we need improved communication with stakeholders, to understand stakeholder management needs and fishery observations.

I'll stop there, before we go into the FMP-specific research recommendations. If there's any comments that you think you all would like me to put in there, just let me know, and we'll add it in there.

DR. SWEENEY-TOOKES: Christina Package- Ward.

MS. PACKAGE-WARD: Yes, and I just wanted to weigh-in for the social research priorities for the community profiles. I don't know if that's ever going to be done again. I mean, it was like a huge and very expensive effort, nationwide effort. I mean, I worked on it. That was like my former life, before I came to the Southeast, but something that is being done is that the community snapshots are being updated, and so I don't know if we want to consider changing it to fishing community snapshots, instead of profiles, there.

Then something I think would be really helpful, and so like David Griffith, who is on the Gulf's SSC, has put together this document, and I think it was for a SEDAR, but it's called "Social Dimensions of the Gulf of Mexico Shrimp Fishery: An Overview", and I think something like that would be really helpful for like every fishery, if that was possible to put together, and I don't know what that would go under, but maybe it's something we can talk about.

DR. COLLIER: Can you say the title of that again?

MS. PACKAGE-WARD: It's "Social Dimensions of the Gulf of Mexico Shrimp Fishery", and it looks like -- I mean, it's mostly based on literature, but then I think it's some of his own observations, kind of as an expert in that fishery, but I think something like that would be really helpful like for our council work.

DR. SWEENEY-TOOKES: Many of us in the room are Googling that document right now, Christina. Thank you for sharing that. Other thoughts or questions before we move into the FMP part? All right.

DR. COLLIER: All right. Real quick, going into the FMP, and these are getting to much more specific questions for the South Atlantic, and not kind of overarching ideas, and so, if you have any ideas to fill data gaps for any FMP, what I would likely do for this section is actually move it into the appropriate FMP, and incorporate it there, but the rest of this would remain as its own social and economic section.

That way, it's going to be a little bit easier for everyone to find, as you're writing research proposals and different things like that. We're trying to make it as easy as possible for you to use this, as researchers, as well as, you know, potentially for other users that might be asking to fill data gaps, and so I'm not going to go into them specifically, but, if you have any questions, or anything that you want added to each of these, please let me know, and we can add them in there, and, if there's any that you feel have been adequately addressed, also let us know about that. That way, we can remove those from the list, and we can note it to the council.

The final part on this is what I would like to do, or some additional feedback I would like to get from the SEP, is, you know, what do you think are the top-five things that need to be addressed, and, that way, I can highlight those for the council to incorporate into the research and monitoring plan. This is going to be about a sixty-page document, and so I don't envision somebody being able to get through it pretty quickly, but we do want to be able to recognize what you all find most important for the fisheries in the South Atlantic region, or the biggest data gaps, and so, if you guys could provide us the top-five, I think that would be great. We'll send an email out requesting that, along with this document.

DR. SWEENEY-TOOKES: All right. Any last thoughts or comments for Chip online or in the room? This gives us a lot to think about, Chip, thank you. Good start, and five pages is manageable. Sixty pages will be a bigger lift. Definitely a bigger lift.

All right. At this point then, we're moving on to the last portion of the agenda. We're going to wrap up the meeting, first with Other Business, and here comes Christina to fill us in. No. Kidding. All right, and we are trying to put our fingers on details about one quick announcement, and so hopefully we'll weigh-in with that in just a minute.

For the SEP then, we have several pieces of homework as we move forward from this meeting. The first is please do spend some time looking at the research and monitoring plan that Chip just shared with us. It is important that we get our perspectives, and our expertise, involved in this document, and so please send him feedback, and also think about what are the top-five, top-five items, in that list.

We all have notes assignments, and so hopefully everyone, especially those who can hear clearly what's happening in the room, should be sending me notes by tonight, please. John and Christina have generously done a very nice job of taking notes as we've gone along, but we know that these need to be fleshed-out a bit more. I do have to present our notes to the SSC on Thursday morning, unless they surprise me by having me go sooner, and so please do send those along, so I can make

sure to give a comprehensive and accurate reporting of our session, and now Chip is going to fill us in on a little other business.

OTHER BUSINESS

DR. COLLIER: Yes, and, so in the development of stock assessments, we do request that they have a social and economic side to it, and the reason for that is -- I think this is a good case study with gray triggerfish. Over time, it has become a more marketable fish, but, because we did not have that social and economic presence there, it was hard to really get that documented within the stock assessment, and that's just the written part of it, and maybe not necessarily in the analytical part of it.

They did try to understand how the fishery was changing, because, if they want to develop a fishery-dependent index, but targeting is changing, they need to know how maybe to block times, or different things like that, and so getting somebody with a social and economic perspective in the room I think is extremely beneficial, and it helps to develop -- It can help to develop different, maybe different, indices, understanding how catchability might be changing over time. I know that it might not make some sense, but it's really trying to get additional perspectives in the stock assessment and understanding how the data might be changing over time, and how the targeting of the fish might be changing over time.

DR. SWEENEY-TOOKES: Excellent. Thank you very much, Chip, and so just something to have on our radar as an SEP, that those calls for expertise may be coming in the near future, and so be thinking about where you could pitch in, and so, at this point then -- So, with that, I am closing out our SEP meeting, with a reminder that we do, of course, have a next meeting.

MS. WIEGAND: We will likely meet again this time. We've sort of set the SEP and SSC meetings as standard each year, and so we will meet this week in April next year, and I cannot remember specifically what those two dates are, off the top of my head, but it will again be Monday afternoon and Tuesday morning, in conjunction with the SSC meeting. It's always possible, as the council sort of moves along, there might be calls for additional input from the SEP later on this year, and those meetings would likely be held via webinar, as opposed to in-person, and so our next in-person meeting will be this time in April 2026.

DR. SWEENEY-TOOKES: Thanks very much, Christina. Thank you so much, everyone online, who tolerated lots of static for several days, and everyone who could be here in the room. I appreciate you all coming and sharing your expertise. Thank you so much to council staff, for all of the hard work that you put into these meetings, and for guiding me through, as I stumbled through my first full session as SEP chair, and so, with that, I'm closing the SEP meeting. Thanks everyone.

(Whereupon, the meeting adjourned on April 15, 2025.)

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Certified By: _____ Date: _____

Transcribed By
Amanda Thomas
June 25, 2025

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✓	Dr.	Jennifer	Sweeney-Tookes	Chair
	Dr.	Jason	Walsh	Vice-Chair
	Dr.	Brian	Cheuvront	
✓	Dr.	Chelsey	Crandall	
WB	Dr.	Scott	Crosson	
	Dr.	David	Dietz	
✓	Dr.	Eugene	Frimpong	
✓	Dr.	Kevin	Hunt	
WB	Dr.	Christina	Package-Ward	
	Dr.	Andrew	Ropicki	
WB	Dr.	Adam	Stemle	
WB	Dr.	John	Whitehead	

SEP Mon 4/14

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	Jessica	McCawley		Vice-Chair	Florida Fish and Wildlife Conservation Commission	State Agency
	Robert	Beal			Atlantic States Marine Fisheries Commission	ASMFC
	Carolyn	Belcher			GA DNR Coastal Resources Division	State Agency
Dr.	Gary	Borland			SC DNR Marine Resources Division	Obligatory
	Amy	Dukes				State Agency
	Tim	Griner				Obligatory
	Judy	Helmey				Obligatory
	James	Hull	Jr.			Obligatory
	Kerry	Marhefka				At-Large
	Tom	Pease			Seventh Coast Guard District	USCG
	Charlie	Phillips				At-Large
	Tom	Roller				At-Large
	Robert	Spottswoo Jr.				At-Large
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	Deirdre	Warner-Kramer			Office of Marine Conservation OES / OMC	U.S. State Department
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	Dr.	David	Dietz	
✓	Dr.	Eugene	Frimpong	
✓	Dr.	Kevin	Hunt	
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SEP Tue 4/15

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Robert	Beal				Atlantic States Marine Fisheries Commission	ASMFC
Dr. Carolyn	Belcher				GA DNR Coastal Resources Division	State Agency
Gary	Borland					Obligatory
^L Amy	Dukes				SC DNR Marine Resources Division	State Agency
Tim	Griner					Obligatory
Judy	Helmey					Obligatory
James	Hull		Jr.			Obligatory
Kerry	Marhefka					At-Large
Lt. Tom	Pease				Seventh Coast Guard District	USCG
Charlie	Phillips					At-Large
Tom	Roller					At-Large
Robert	Spottswoo Jr.					At-Large
Andy	Strelcheck				NOAA Fisheries Southeast Region	NOAA Fisheries
Deirdre	Warner-Kramer				Office of Marine Conservation OES / OMC	U.S. State Department
TBD	TBD				U.S. Fish and Wildlife Service Representative	USFWS

April 2025 Social and Economic

Attendee Report: Panel Meeting

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Attended

Yes

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Attendee Details

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April 2025 Social and Economic

Attendee Report: Panel Meeting

Report Generated:

04/21/2025 08:11 AM EDT

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04/15/2025 07:50 AM EDT

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