

SOUTH ATLANTIC FISHERY MANAGEMENT COUNCIL

CITIZEN SCIENCE COMMITTEE

**Beaufort Hotel
Beaufort, North Carolina**

December 9, 2021

Transcript

Committee Members

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Additional attendees and invited participants are attached.

The Citizen Science Committee of the South Atlantic Fishery Management Council convened at the Beaufort Hotel, Beaufort, North Carolina, on Thursday, December 9, 2021, and was called to order by Chairman Kerry Marhefka.

MS. MARHEFKA: I would like to call to order the Citizen Science Committee, and our first thing to do will be to approve the agenda. Does anyone have any additions or changes to the agenda? Hearing none, so approved. Then we have the Approval of the December 2020 Minutes. Does anyone have any changes to the minutes from December? Seeing none, the minutes are so approved.

We have two short topics today, and I think Julia was also going to make an introduction. We have a new staff member, and so we're looking forward to meeting him officially. The first item up is the Updated Citizen Science Research Priorities, and Julia is going to go over it all, but, just so we're all on the same page, every two years, the council updates its citizen science priorities at the same that we update our research and monitoring plan, and so they kind of go hand-in-hand, and, in October, the Citizen Science Operations Committee and the Projects Advisory Panel got together and worked on the list, and so we're here today to look at that, but, Julia, you're going to handle all of that much better than me, and so I will hand it over to you.

MS. BYRD: All right. Thanks, Kerry. Before jumping into the research priorities, I did want to take a second to officially introduce Nick Smillie, who is the Citizen Science Project Coordinator, and I know we gave a really short introduction to him at the September council, when we were via webinar, but I know he's with you guys at the meeting in-person, and so I just wanted to take a second to give you a little bit of background on him and let him say hello.

I'm really excited for you all to be able to meet him, and so Nick grew up in Charleston, fishing all around the low country, and so he came to the council officially and started working for us as the Citizen Science Project Coordinator in August. He got his kind of undergraduate degree from the University of South Carolina, in environmental science, and he really focused a lot on science communication, and then he started his master's degree at the College of Charleston, and graduated this year, and he worked really closely with the Citizen Science Program on his thesis research, which really focused on trying to evaluate kind of recruitment and retention methods and self-reported fishing apps.

He's been working really closely with us over the past couple of years. Through his research, he interviewed a number of our SAFMC Release participants and analyzed a lot of the MyFishCount survey data, and so, when he started in August, he was really able to kind of jump right in, and so I just wanted to take a second, and, Nick, I don't know if you want to say a few words before we jump into the agenda.

MR. SMILLIE: Thanks for the formal introduction, and it's really nice to see everybody's faces in the room.

MS. BYRD: All right. Thanks, Nick. I look forward to all of you guys getting to know him, because we have really enjoyed having him kind of onboard as council staff. With that, I will go ahead and jump into the first agenda item, which Kerry already mentioned to you all, the citizen science research priorities.

Today, what we're really going to try to do is I'm just going to give kind of a quick background information for you guys, and then, as Kerry mentioned, our kind of two citizen science advisory panels have reviewed our research priorities and have recommended a number of updates, and so we'll be kind of walking you guys through those, and the goal here is for you guys to kind of review them, discuss and make edits that you feel are appropriate, and then potentially consider them for adoption.

Kerry already went over some of this background information, and so, again, citizen science research priorities are updated every two years, and they're really meant to help guide the types of projects that our program kind of supports or pursues, and so to really try to narrow down the focus on all of the many data needs we have across the region, to kind of tangible ideas that would work well with a citizen science approach that are most important to the fishermen and scientists and managers in our region.

Not only with these guide the projects that we try to develop kind of internally, as kind of staff are collaborating with other folks, but we want to share these priorities with others, and so, if there are other folks who are interested in doing citizen science work throughout the region, they can have a sense of what our priorities are and maybe can facilitate some collaboration with them. As Kerry already mentioned, we update these every two years, when you guys update your overall research and monitoring plan, and so you guys did that in June, and so we're going to be updating the citizen science research priorities at the December meeting.

Just a quick background on kind of the prioritization process, which we kind of already went over, and so what happens is the council will update their research and monitoring plan, and then we use that document as kind of a resource for us, as we work to update the citizen science research priorities, and so that document serves as a resource, and then we've also been kind of taking notes on any other kind of citizen-science-related topics that have come up, whether it's at a council meeting, at advisory panel meetings, or people have reached out to staff with ideas, and then what we do is we hold a meeting with our two advisory groups, the Projects Advisory Committee, which is made up of representatives from many of the council's species and Habitat and kind of Outreach APs, and then our Operations Committee.

Then will recommend any updates that then come to you guys for your review and consideration, and so there's a third step in this process that we haven't developed yet, and that is to kind of fill this online citizen science project portal, where members of the public could submit ideas that would then be considered in this process, and so we're hoping to look into that sometime after -- Developing that after the new website goes online next year.

You guys were provided kind of three attachments relevant to this topic in your briefing book, and the first one is kind of 1a, which is the kind of updated research priorities, and that includes kind of the recommendations and feedback provided by the advisory panels at their November meeting, and then 1b is this presentation that's just meant to help us walk through the different research priorities, and then Attachment 1c is the updated council research and monitoring plan for you guys to kind of refer to as a reference, if needed.

As we're walking through the research priorities today, some things that may be helpful when you guys are kind of discussing or thinking about feedback are kind of are there any priorities that are on the list that should be removed, or are there any priorities that aren't on the list that you feel

would be addressed well with a citizen science approach that should be added to the list. For some of the research priorities, there are target species listed, and so are there any kind of additions or deletions to those that would make sense, and then kind of are there -- Which of these priorities may help us address the most kind of immediate needs for science and management.

What my plan to do today, Kerry, if this sounds good to you, is I kind of made up a slide for each research priority, and I thought I would quickly walk through it, just really highlighting any recommended kind of changes and kind of the recommendation of the advisory panels and then see if anyone has any comments or kind of thoughts or discussion and then move on to the next priority, and so we're kind of getting feedback on each priority along the way, if that works okay.

MS. MARHEFKA: Sounds great, Julia. Thanks.

MS. BYRD: Okay, and so each of these slides -- So each priority is on a separate slide, and they're kind of set up the same way, and so the priority is at the top in italics, and so kind of age sampling here. Each priority has kind of a target list of volunteers, data that are needed, target species, anticipated outcome, and just a small kind of scale of potential costs. Anything that is highlighted in yellow is kind of a suggested addition, and then the recommendation from the group is on the bottom, and so we'll start with age sampling, and so the kind of -- Our citizen science advisory panels supported keeping this as a research priority, and they actually thought that kind of having age data, in particular from the recreational sector, was an extremely high priority.

They did suggest adding a few new species to the target species list, and these additions were based kind of on two things. One, in the updated research and overall council research and monitoring plan, it noted a need to obtain life history traits for some of the priority unassessed species, and so the group looked at that list, and, the ones that they felt were most important to them, we added to the list, and so almaco jack, dolphin, wahoo, hogfish, and lane snapper, and then we also added some species to the list based on the upcoming stock assessment schedule, which you all just went over in the kind of SEDAR Committee, and so those were red grouper, vermilion snapper, and blueline tilefish.

The group also noted that kind of age data are really critical to stock assessments, but they can also be really influential, and so, when thinking about any kind of citizen science projects related to the collection of otoliths, we really need to be thinking very hard about kind of sampling design and protocol. I will pause here for a minute, to see if anyone has any kind of feedback on this kind of recommendation from the group, and so we would be looking to see if anyone has additional kind of feedback to add or if you all agree with the kind of additions of the yellow, highlighted species.

MS. MARHEFKA: Laurilee.

MS. THOMPSON: Hi. I'm new at this, and I'm a new council member, and so what is the difference between your -- I take it you're using volunteers to collect otoliths, and how is that -- Is that different than the otolith collection sampling that's going on at my sister's fish house? Is this a different thing?

MS. BYRD: I guess I should have taken a step back a little bit further, Laurilee, and described kind of what these research priorities are for, and so these priorities help us figure out what types of citizen science projects we want to develop or want to support our partners developing, and so

they aren't active projects that are going on right now, necessary, and some of our projects fit under the research priorities, but, in the instance of kind of age sampling, we don't have an active citizen science project being done to collect age samples on these species right now. This is to try to identify kind of what priorities we have, so that we can develop projects that would support them, and does that help at all, or make sense?

If a project was developed right now, I'm assuming they're port samplers who are coming to your dock to sample species, and I think any kind of volunteer sort of port sampling work we would do, we would try to do kind of in collaboration with like a traditional or, I guess, monitoring programs that are already underway now, and we would try to be supplementing them with any kind of projects that we sort of develop, and so does that help?

MS. THOMPSON: Kind of. So you're going to use volunteers to collect otoliths to supplement what I guess the government is collecting?

MS. BYRD: If we were to develop a project, that would be kind of the idea, and I think it would have to be a partnership with kind of volunteers who are very dedicated, because removing otoliths can be very challenging, or it could be done through like a carcass collection type of program, where folks are putting their kind of carcasses, after the fillets are cut, into a freezer or something, where someone else could pick them up, and then we would have to -- Basically, it would be kind of a group of volunteers who maybe could help with some of that stuff, whether it be collection or fish or whether it be a very dedicated and trained group of volunteers who could help remove otoliths, potentially, and then we would have to partner with a state agency or a federal agency, someone who could actually take that otolith and process it and read it.

Again, this is more of helping us identify priorities so that, if we want it to help us, to give us guidance on what are the types of projects that we would want to develop, and we don't have a project that's collecting age samples now, and I think this one would be a challenging one to develop, because you would have to have lots of different organizations involved, but it is identified as a high-priority research need. I don't know if I'm helping at all or if I'm talking and confusing you more.

MS. MARHEFKA: Laurilee, Chip might be able to clear it up for us.

DR. COLLIER: One of the big things that the Citizen Science Program is trying to do is fill data gaps, and so there's a lot of age samples coming from something like golden tilefish from your fish house, and so that's why you're not seeing a species like golden tilefish on here, is because they're being addressed through traditional fishery-dependent data collection methods. A lot of those methods have strict statistical designs to them that help improve some of the sampling. In citizen science, you try to get around some of those statistical issues, through the volume of the sampling that you can potentially be doing.

The other thing that is important to note for some of these species is that it wouldn't be necessarily to describe the age structure of the population, but it could be just to describe how the population is growing, and so, in data-limited approaches, you might be able to use some of the growth parameters to help inform one of those data-limited approaches a little bit better.

MS. MARHEFKA: Tom.

MR. ROLLER: Thank you, Kerry. I just wanted to say that I know that this, as far as a research priority, is really important, and I agree with the approach, because, in the State of North Carolina, the North Carolina Division of Marine Fisheries has a carcass collection program, where they have coolers kind of positioned in different counties, or areas in different countries, where recreational fishermen clean fish, right, and so we can fill out forms and drop carcasses in there, and staff has been very good with badgering -- "Badgering" is not the right word, but reminding me to make sure that I am donating carcasses and trying to get other carcasses because they have a great need for ageing in a lot of different species, and so I think that, since some of that already exists, and I know data in the recreational side, ageing data in the recreational side, is really lacking in a lot of these species, and so I think it's really important, and I think some of that infrastructure, at least for North Carolina, is already there to partner with, and everybody could definitely use some more help there.

MS. MARHEFKA: Thanks, Tom. Julia, did you want to -- Does anyone else have any -- Carolyn.

DR. BELCHER: Just a point of clarification, Julia, and I know cobia is on that list, and I'm just looking at where we have hogfish as identified specifically for the Georgia/North Carolina stock. I'm sure, when we first started building this list, this was before cobia went over to ASMFC, and so are we still keeping that species on there as the entire region, or should that be Florida cobia? I don't have a -- I wouldn't necessarily say that we strike it, and, I mean, I know it's important for the states, but, just knowing it's not necessarily under our management umbrella, is that something we need to modify?

MS. BYRD: Yes, and I think that is something that we can definitely modify. I know that kind of we brought up during the meeting, during the meeting with our advisory groups, that we don't really manage cobia anymore Georgia north, but they didn't recommend taking it off the list, and so, if you guys feel like it would be best to kind of limit this to the kind of stock that the council manages, based off the east coast of Florida, we can do that, and so I guess I would leave that up to you all's discretion. The advisory panel groups left it as-is, but I think it is a very good point, that we're not managing them Georgia north.

MS. MARHEFKA: All right. Chris and then Mel.

MR. CONKLIN: Sure. It's been a while since I've gotten like an update, as far as like from different states, but it was my understanding that they were several years backlogged on -- I think it might have been Florida, when I toured the lab or something, and does that still seem to be the case, and so, if we collect all of these, it could be a long time before the otoliths actually get cut and aged?

MS. BYRD: I guess, Chris, I can't speak to the backlog issue, but I know, again, we're not actively collecting these age samples now, and I think, if we were to develop a project, we would be reaching out to whether it's a kind of state agency, or a federal agency, to see if -- To coordinate that, if we collect these extra samples, how will they get processed and aged, and so I think that would be built into the process, and so I think, if any project is going to be developed where we're collecting otoliths, we're going to have to have those conversations with kind of the state partners or our federal partners who are doing that kind of processing and ageing work. Again, I can't

speaking to any backlog issues at this point, but we want to make sure that, if folks are collecting the information, that it can be processed and used.

MS. MARHEFKA: Chris, to that point?

MR. CONKLIN: Sure, and so what I was thinking, by saying that, is it may be just as important to train citizens to go into and work in the labs and help these folks out, so they can get some of the stuff cleared up, and, I mean, it can't be that hard to count the rings in a tree.

MR. BELL: It's a little more complex than that, and the thing that -- As Julia mentioned earlier, a project like this -- Certainly it's a data need. A project like this, where volunteers can be very useful, is you can't age otoliths if you don't have otoliths, and, in some cases, it's a matter of, like Tom described, and, if you have a program set up where folks can drop off racks of particular species, like we do, then you can then -- Folks that know how to get certain otoliths can get them, and so it's a matter of the volunteers are good for certain things, which in this case is really getting hands on the otoliths, but, as Julia mentioned, a project like this is very -- It's a little more complex, in that you have to interface with the right folks that know how to do, in some cases, the removal of the otolith.

Some species are extremely difficult to find the otoliths, and some are pretty straightforward, but this is really more getting the ability to have samples, but then the processing part is really -- That's where you need the appropriate state and federal folks that do this stuff, and it's not just a matter of you have the otolith and you pull it up and look at it. There's a lot of processing and all that has to go on with that, and so it's certainly data that are needed. Where the volunteers could be helpful is in acquiring the samples to get you going, but, ultimately, there is the processing of the otoliths, the reading of the otoliths, the costs associated with that, and that's why it's kind of a multifaceted program that you would be putting together.

MS. MARHEFKA: I have Dewey next, but I just wanted to ask Julia a question, to clarify, real quick. These slides, these research priorities, aren't listed in order of our priorities, correct, and they all carry equal weight?

MS. BYRD: That's correct. They're not listed in any particular kind of prioritization order.

MS. MARHEFKA: Dewey.

MR. HEMILRIGHT: I think this is an excellent idea, because I believe you can train folks, with citizen science, to take these otoliths, and it might be a little bit of a thing, but you will have the otoliths, because I've had experience where I've had observers doing the -- Going and taking the otoliths out of the side of the gills, when it was easier once trained, to cut the head to break it open, and so I think this is an excellent project and a good start to get folks -- You know a group trained into this, and so I would -- I think it's a good idea.

MS. MARHEFKA: Chris.

MR. CONKLIN: I'm just curious. When the port samplers come and sample our catches, they do -- There might be a sixty-year-old grouper sitting there and a four-year-old something else, and they've got to be random, supposedly, in selecting stuff, and so you can tell them what to get and

what not to get, because I've tried, but how is this going to be validated if it's not random, or would it be, and I'm just curious, as far as like we don't want to do the work and then just get it thrown out, which is going to happen a ton of times.

MS. MARHEFKA: I mean, I think that's what Chip said earlier too, is that it's supplemental, correct, and it's not going to be the driver of anything, and it's going to help us fill in blanks that we don't have, and am I mistaken? All right. Andy.

MS. STRELCHECK: I guess several questions. First, it says we're essentially supporting keeping this as a research priority, and so, in talking about this, it sounds like this hasn't started yet, and so my recommendation is think of this more as a pilot. If we want to get something started, rather than looking at fifteen species right away, narrow the scope to a smaller number of species, or maybe even one species, like blueline, which has a fairly narrow geographic scope, and demonstrate the ability to do this first and then expand out from there.

The other question I had was, I guess, in walking through these, we have a number of priorities, as well as costs that are listed, and so this is over a two-year timeframe, and are the priorities intended to be at least started or accomplished over that two-year timeframe, and are the costs of doing that commensurate with the South Atlantic Council's budget to support it?

MS. BYRD: Andy, I can try to address some of those questions, and others, Chip or others, feel free to jump in, and so, again, these are just meant to help guide the projects that we develop and pursue, and, as far as the kind of projects we've put together kind of so far, like FISHstory, we have looked for outside funding sources to kind of help us develop projects, and so these are meant to just kind of guide the types of projects that we would like to develop if we can get the resources to do them.

They're not meant to say we're going to accomplish kind of a project under each of these priorities over this two-year period. It just gives us and other partners guidance of the type of projects that we may want to develop, and so the way that it has typically worked in the past is that we have tried to partner with folks and to write grants to support projects, and so I guess does that help address that last question, Andy?

MR. STRELCHECK: Yes, very much so, and I think that, to me, raises then kind of an important point of these aren't listed in any priority order, but certainly we would want the council, at some point, and maybe not at this meeting, to discuss if some of these are higher priority than others to work toward, given that there is funding limitations in grants that you might be able to pursue.

MS. BYRD: Yes, and I think that's a good idea, and, if there are some, as we're walking through, that people feel are a higher priority, I think that would be helpful to us to note as we kind of are searching for kind of funding opportunities or partners to work with, that sort of thing, and so I think we can try to do that in a more formal way, potentially at a future meeting, but I think, if there are certain ones that people think are very high priorities, that would be helpful to share.

MS. MARHEFKA: I have Chip to that point, and then Tim and then Dewey, but I just want to remind everyone that we have a lot of these slides. I have Mel right next to me, who I know will start strangling me shortly, and so just remember that this is a little bit too of our dream list. If we get funding, and we get the ability to do some of these things, we're going to have lots of time, I

think, to flesh out all of the issues, and so we might need to be a little more concise in our comments, or else I'm going to get in trouble, but Chip, to that point, and then Tim and then Dewey, and then, Julia, we should probably move to the next slide.

DR. COLLIER: The other thing to think about, when you're reviewing some of these priorities, is to consider that it's not just for South Atlantic staff to work on. Citizen science projects can be developed by whomever, and what we want to do is be able to guide them to some data gaps that we have in the South Atlantic region, and so some of this work might be -- It might be started without the South Atlantic Council involvement, but, if they need support, such as a letter of recommendation, this can help give justification why Julia would spend time developing a letter of recommendation for somebody else to start a project that could be addressing a data gap.

MR. GRINER: I have always been a big proponent of this citizen science, and I think this is a great initiative, but, as we develop these citizen science projects, and we say we want to fill in a data gap, I think it's important to make sure that we really are filling in a data gap. I mean, at one point in the not too recent past, I remember -- I think it was the Beaufort Lab was in the order of tens of thousands of otoliths sitting there that they couldn't even get to yet, and so where do the otoliths go and who eventually does something with them, and where do they get stored, and, at the end of the day, all data gaps are data that are only used for one reason, really, and that's for stock assessments, and, if there is no validation, and if this is just kind of --

Yes, it trains people, and it gets us moving in the right direction, and it does some things, but, if it's not actually used, then maybe there is a better project, and I don't know, but I am just -- I always worry about having these great citizen science projects and all this wonderful work is done, and then it sits on the shelf like a trophy, just for everybody to look at, and it's never really used for any purpose that helps get this council to a point where they can use it for management decisions. Thank you.

MS. BYRD: Kerry, can I respond to that, really quick?

MS. MARHEFKA: Please. Yes, go ahead.

MS. BYRD: One thing that I just wanted to say to that point, Tim, is that, you know, that was something that came up really clearly when we had the citizen science workshop, the initial workshop back in 2016, that having the data used, or considered for use in the assessment or management, was really important, and I think Kerry did a good job of saying this is kind of our dream list, and, you know, if we were to develop a project under this priority, there would be a lot of thought given into how to conduct that project, and to the design of that project, and, at the Citizen Science Program, what we try to do is bring together what we call a design team.

That is kind of some of the kind of assessment scientists that might use the data, some fishermen who might be interested in helping collect the data, along with kind of management folks, council staff, kind of outreach folks, and so all of these people are working together to develop a project, and getting some of the scientists involved from the beginning gives that project the best chance of success for that data to be used, and so I just want to make sure that everybody knows that we take a lot of time and effort in developing projects and try to get scientists and fishermen talking together as we're designing a project, to give that project the best chance of success, which is having that data be considered for use in an assessment and management.

MS. MARHEFKA: All right. Thanks, Julia. I would just, again, stress that, as we move along these slides, look at the bottom of the slide, which is the information that they want from us that's going to help us move forward, and so, you know, whether it's keeping the whole thing as a research priority, or adding other species, but make sure we look at the question and kind of answer that concisely, and let's not get bogged down in the details. Carolyn, go ahead.

DR. BELCHER: One suggestion that I have for moving forward with this, and I'm going to let Julia go through on her steps, but I wonder if it would be helpful to group these priorities based on involvement, because there are certain ones, if you go up and down the list, that are basically low-hanging fruit, and they're observational, and they're rare species and discards and those kinds of things that are all pretty much at the hands of the individual.

It's reported in, and it works very similar to the bird, the Cornell, work that's been done, and those kind of make a lot of sense, where, right now, we're getting wrapped around the axle about, woah, woah, woah, what's the cost of this, who is going to be involved, are people committed, and I think if we at least start saying, okay, age, maturity, and these are things that are going to involve agencies, state or federal, and let's group these together and talk about those when we've got the ability to take funds, like CRP or whatever, and fund something like this. Then these other ones that kind of come up, that are app builds, that are not low-hanging, and I think it would just kind of organize, and then the idea is are there things that we're missing, and then add or take out.

MS. MARHEFKA: I think that's really helpful. Thank you. Julia, are you good with that? Did you follow along?

MS. BYRD: Yes, I think so, and, just to confirm what I think I heard, is have a level, like a new bullet point, that says involvement, that has some kind of scale of if it's more easy to collect, and it's just someone collecting an observation, versus like age sampling that is challenging, because it's not only a fisherman providing kind of a fish, but then you have to get the otolith, process the otolith, read the otolith, and so have kind of involvement, kind of easy to hard scale, added to each of these, and is that right?

MS. MARHEFKA: She's saying yes, but I don't know if you could hear.

MS. BYRD: Okay. Yes, I'm good with that, and I think that's a great idea.

MS. MARHEFKA: Go ahead, Julia.

MS. BYRD: Okay, and so, moving on to the next slide, again, this next priority is maturity data, and the group discussed it and, again, thought it was important to keep this as a research priority. They noted there are some storage for biological, like kind of gonads, can be challenging, and so that may add some complications to a project like this. They are recommending keeping maturity data as a research priority and are suggesting adding the additional species that are highlighted in yellow here.

Those species were added for kind of one of two reasons, and the first one, again, is, in the South Atlantic research and monitoring plan, they noted a need for some life history information on some of the priority unassessed species, or specifically noted some information on mutton snapper

spawning would be helpful, and then there are also some species that are added to this list that are outside of the Southeast Regional Reef Fish Survey sampling season, and so the trap and video fishery-independent survey that goes on, and there are some species that spawn kind of outside of their primary sampling, and so some of those species were added to the list as well, and those include gag, red grouper, black grouper, scamp, black sea bass, and then greater amberjack, and the peak spawning is a little bit out of their window, and they don't collect that many greater amberjack. That's the recommendation for the group, and so I'm interested to see if anyone has feedback.

MS. MARHEFKA: Again, the question here is do we support keeping this in there as a research priority, and how are you all with the list of species? Carolyn.

DR. BELCHER: In the general sense, I support the idea. Again, it's a high-collaboration project, and so just putting that caveat on the side, but the species listing -- I think we can get too prescriptive with that, and I think opportunistic sometimes is helpful. I mean, our carcass program, that, as Chris referred to, we have the freezer program. We don't turn away carcasses for non-targeted species. Now, do they get processed in a priority? Yes, and we handle what we need, and the other ones are archived, to the best of our ability, and, as they come up for need, we bring them out. That's just kind of putting that there, and I don't know that necessarily the targeted list -- Because that's going to change with every stock assessment that we look at.

MS. MARHEFKA: I am seeing no other hands, Julia, if you want to make note of that, and we can move on.

MS. BYRD: Will do. The next slide is discard information. The group felt that collecting better information on discards is a really high priority, particularly for the recreational sector, and particularly for length and information that could inform discard mortality discussions, and so they recommended keeping this as a research priority, and they didn't have any recommended changes to the language.

MS. MARHEFKA: Great, and so I guess we just have to decide whether we support keeping this as a research priority. Carolyn.

DR. BELCHER: Yes, probably a very high priority, and this is one of those ones that collaboration needs to be there, in the sense of whether it's an app or however you develop it, but it really does fall more to the hands of the volunteers.

DR. WALTER: I would put an extra special plug in for this one, given that discards seem to be something that is a real challenge for our assessments, and I will just illustrate it with we use the iSnapper app in the Gulf to characterize the depth that the recreational fishery is likely to fish. It was the best data we had on that, and that came from citizen-science-reported locations, and, if depth becomes something that we consider, and we do for the discard mortality, but, if it becomes some sort of a management action of moving to some sort of depth closures, which actually was on the table, we need that kind of information, to know where people are fishing and what potential benefits you might get from sort of alteration of how and where people fish.

MS. MARHEFKA: All right. Thank you. Julia, I know that, while we have not put these in priority numbers, I think what I'm taking away from this is you will hear sort of the excitement

and what people think are more realistic, in terms of getting done, and that will be part of the thought process, and am I correct?

MS. BYRD: Yes, and I think so. I think I will try to kind of star ones at the top that people seem to think are very important, and then, in the kind of report that I write up, I'm hearing it's kind of high collaboration and kind of -- As far as like a project needing multiple partners, and like any of the biological data collection, if we're collecting otoliths, gonad samples, things like that, they kind of need a lot of coordination, and some of these may be kind of more easy for data collection, and so I will try to include information on the kind of collaboration level, is I think how Carolyn described it, within the report, and then we can include that in the priorities.

MS. MARHEFKA: Great. Andy.

MR. STRELCHECK: Yes, and, once again, just kind of a suggestion. There are a lot of priorities here, and this is a lengthy wish list, right, and so I like hearing that we have enthusiasm over things, and maybe, to help compartmentalize this a little, we could put things into tiers, and maybe not today, but here's kind of our top tier, here's the middle tier, and here's the nice to get to if time allows, just to kind of give some separation and focus in terms of what would be kind of points of emphasis going forward.

MS. MARHEFKA: I agree. Julia, if you want to go ahead, and I don't see any other hands.

MS. BYRD: All right. Next is genetic sampling, and, again, this is one that they support keeping as a research priority, and they suggested adding two additional species. Spanish mackerel was added because, within the updated South Atlantic research and monitoring plan, it noted the need to evaluate stock structure with updated data and modern techniques for that species, and then there was interest in some folks on the committee in stock structure for dolphin.

I guess, in general, the committee members felt that kind of genetics are an evolving and increasingly powerful tool, not only to kind of help with kind of stock ID, but some of the close kin mark-recapture work with genetics is being done to get to abundance in kind of the red snapper counts that are going on, and, in the future, they could be used to age fish, and so they also noted that there are examples and kind of fin clips may be easier to collect than say an otolith or a gonad, and there are some examples of projects that have worked very successfully with fishermen to get to genetic fin clips from things like cobia, and so they were kind of supportive of keeping this one in and adding these two species to the target species list.

MS. MARHEFKA: All right. Thank you. Any comments? Carolyn.

DR. BELCHER: So, again, another one that kind of goes under the biological sampling type, and you've still got to have that high collaboration for it.

MS. MARHEFKA: All right. Moving on, Julia.

MS. BYRD: Next is fishing infrastructure, and the group supported keeping this as a research priority, and they didn't have any suggested changes to the language. They did note that the updated kind of overall council research and monitoring plan includes trying to quantify kind of current and baseline access to fishing infrastructure as kind of a social and economic priority, and

folks also noted that this was increasingly important, particularly for the commercial and for-hire sectors, with the loss of working waterfronts.

MS. MARHEFKA: Carolyn.

DR. BELCHER: This is one that I understand the volunteer part of it, but the socioeconomics part of it, that is more helpful for us, I think takes on a stronger socioeconomics research component, and so this is one of those ones that I would say probably marginal on a high priority, just in terms of using it as a cit-sci approach. Like I said, participation, I totally get, but, as far as how it gets done, I think you need a little bit stronger oversight for the development on that.

I mean, we're working on it right now in Georgia, with some of our -- Our plan is using some of our shrimp disaster money to work with one of the universities to do a very similar project to this, and there's a lot more socioeconomics that's going on behind it.

MS. MARHEFKA: So you're saying it's not as easy for a regular Joe-shmo to go out there and monitor.

DR. BELCHER: Their stories coming up have to be taken and assimilated and put together to give you a bigger, broader picture of what that looks like, and so that's where I would tend to put this one, is kind of more down on that lower end, because I think there's a little bit more on the unknown of how that ties in strongly to cit-sci.

MS. MARHEFKA: All right. I am not seeing any more hands.

MS. BYRD: All right. Moving on, historic fishing photos is the next research priority, and this is one, again, that they're recommending supporting keeping as a research priority. They noted that kind of having -- There's been a lot of interest in our current FISHstory project, which is a project that's focused on kind of getting and documenting kind of catch, species composition, and kind of length compositions from historic photos, and they noted that kind of helping have a better idea of what was caught kind of before the catch monitoring programs that are in place now could be really helpful, and folks have noted that, as kind of climate change became a larger issue, capturing information on fish availability over time could be helpful, and these historic photos could help do that before kind of the data collection programs we have in place in the South Atlantic got started.

MS. MARHEFKA: Any comments or questions? Trish.

MS. MURPHEY: This is just a quick question, but this has been going on for, what, a year? How long has this project been --

MS. BYRD: This project started in 2019, and so all the data was collected as of kind of this summer, and we are in the process of analyzing and writing the grant reports of our initial FISHstory pilot project now, and so that report will be hopefully done, or should be done, in January.

MS. MURPHEY: Okay, and so it will be done in January, because what I was thinking was I will be curious to see how those length comps are going to be incorporated into a dataset and then used in a stock assessment or somewhere, and I was just kind of curious if that's even been tried, even

as a pilot, dumping some data in and just seeing what you come out with, and that was just a question, because, on one hand, it sounds really cool, and then I just kind of start wondering about, when we get those lengths in a dataset, how it's going to work, but that might be a discussion for later.

MS. BYRD: I was just going to say, Trish, I can certainly talk to you about that a little more too, but, just to give a little bit of information, through this pilot, we developed a method to estimate the size of fish based on kind of the lumber in the leaderboards, where, when you stand in front of a photo, to kind of take a picture of the catch from the day, we use that lumber kind of as a scale to estimate the size of the fish.

We have developed kind of a protocol and a method, and we actually reached out to the stock assessment scientist for South Atlantic Spanish mackerel, because we developed this methodology, and we're pilot testing it. Excuse me. King mackerel. We're pilot testing it on king mackerel, and so we reached out to the kind of stock assessment scientist for king mackerel in the South Atlantic, to kind of go over the methodology we developed, and so he was excited about it, and he was interested, once we have kind of length comps for king mackerel developed from that historic time period, and he was interested in having us send them along, to see -- To play around with them and see how they impacted the model.

Then we also had the length methodology reviewed by the SSC, and they were supportive of kind of the methodology that we developed, and I think they thought that that length data could potentially be considered at the next upcoming king mackerel stock assessment, and so I don't know -- I can give you more information on that offline, but just to let you know that we kind of tried to loop-in some of the folks who may end up using the data kind of as we've been developing the methodology to estimate size from those photos.

MS. MURPHEY: Okay. Cool. Great. Thank you.

MS. MARHEFKA: I have Chester.

MR. BREWER: I have mentioned this before, but the West Palm Beach Fishing Club has got an extensive archive of historic fishing photos, and some of them are really, really, really cool, but they run back to the early 1930s, and so you've got -- One of the things you've got, and I have looked through them occasionally, are these old, silver-tone, black-and-white photos that are just -- They're astounding, and you've got a lot of historic -- It's interesting not only from the standpoint of the fish that are hanging up after the tournament, or hanging up after a big day of fishing for the charter boats, but, I mean, there's a lot of historical figures, and I mean people like Hemingway and whatnot that are in there, and it's just really fascinating stuff. I know that the staff at the fishing club would be more than happy to help get this stuff out there and to you.

MS. BYRD: Thanks, Chester, so much. I know I have certainly heard you kind of mention some of those photos before, which it sounds like an incredible archive that the West Palm Beach Fishing Club has, and so, as we've been doing the FISHstory project, there have been some other groups that have reached out to us too that have kind of an archive of some of these historic photos, and so I think it would be great for us to try to start kind of banking some of those photos, and then we've applied to one grant, that we weren't successful yet, to kind of continue this project, but we're looking for funding now, to see if we can find some additional funds to kind of continue this

project and kind of increase the photos included within the project, and so thank you for that, Chester, and I may be reaching out to you afterwards.

MR. BREWER: No problem.

MS. MARHEFKA: I was just going to say that we've all talked about what a wealth of knowledge Rusty is, and it's sort of a way to download some of that information that he's got in his brain, and I'm very thankful for it, because it's always been helpful for us. Julia, go ahead.

MS. BYRD: All right. The next one is fishing oral histories. Again, this is one that the group supported keeping as a research priority and noted that it could pair well with a project looking at some of these historic fishing photos. They didn't have any suggestions on changes to the language, but some folks also noted that having kind of information on trends in the fishery from things like oral histories could be really useful supplemental information for kind of assessments and management, putting kind of things into context, putting the trends into context.

MS. MARHEFKA: Go ahead, Carolyn.

DR. BELCHER: Similarly, Georgia has had an individual, and she's actually on the SSC, that has been working with Sea Grant to do this type of study, and so I think talking with Jennifer Sweeney-Tookes would give you an idea what is actually involved in that, because I think it's more than the management part of it, how you're using that information and pulling it up, but, yes, I think it's just the idea of how you're planning to use the information and how you distill it back in the other direction, and so there's kind of in the realm of what we've been talking about. Biologically, there may be like that idea of talking with the socioecon person, to find out how you would deal with your archive of information.

MS. MARHEFKA: Chip.

DR. COLLIER: To that point, Jennifer is going to be giving a presentation in our seminar series in February, and so we're going to get an explanation of the methods and also some of the information that she is finding out through these oral histories.

MS. MARHEFKA: If I may, there is a group called the Southern Foodways Alliance that is out of the University of Mississippi, and they do this thing, when they go to events, whether it's like Charleston Food and Wine, or whether it's their own symposiums or whatever, where they kind of have a little booth set up, and people can step in, and they can sort of sit and talk to someone, and it's recorded, and, obviously, the question on the backend is what do you do with all of that information, but it could be something for us to think about, whether it's council meetings or public hearings, and you get a guy, like Selby, who came yesterday, who has all of this knowledge, and we can't hear it all when we're having a public hearing, but maybe, if there is a way that, when they're here, they sit down, and all someone does is put the tape recorder and let them talk, and we figure out how we use that later, but the average age, of at least the snapper grouper fishermen, is not young.

DR. BELCHER: I know, with Jennifer's, it's a lot of student involvement. GSU is big on getting that application, like applied research. They want to go out, and they want to help communities, and they want this to be more than just novel academic exercises for a lot of the students, and so

that's where I think they've been able to get a lot of information in a short time window, because there's enough interested bodies to go out and do it.

MS. MARHEFKA: Well, Julia, for me, this is exciting, because I really worry about the knowledge that we could be losing soon, and so hopefully this can be one that can find a way to get funded and people will get excited about.

MS. BYRD: I was just going to say that I think something that we've kind of been -- To build on kind of what, I guess, you and Carolyn and others have said, we kind of thought about, whether it's at council meetings or public hearings or AP meetings, and we have talked about this from kind of a photo standpoint, but we could also kind of do something from an oral history standpoint, but having like a scanning night, where people could bring in old, historic photos at a council meeting, and we could digitize them for them, and give them an electronic copy, and then collect some information on the photos.

I know, back in the early days, when we were starting FISHstory, we actually chatted with Jennifer and Tracy Yandle, and so really awesome social scientists who have done so much great work within kind of some of this oral history kind of work, and it would be great to kind of have a project paired where you could kind of scan photos and then have a group of folks, whether it be students or otherwise, then kind of chatting with the folks who provided the photos, to collect some of this oral history information, and I think it could be a really cool project and really awesome, if we could find a way to build it into some kind of the council's meeting process already, and so, yes, I think that's great ideas and wonderful feedback on this one.

MS. MARHEFKA: All right. Next one.

MS. BYRD: Next is kind of oceanographic, environmental, and kind of weather information. Again, this is one that folks suggested keeping it as a research priority. They noted that this is one that's a particular interest to fishermen, and it's kind of increasingly important as impacts from climate change -- As we're starting to see more impacts from climate change kind of in our region, and so they didn't have suggestions to change the language, but they supported keeping it within the priorities.

DR. BELCHER: I think this is a good one. Again, it's back to those things that, if you're thinking about a person who wants to participate in a cit-sci program, what are the things that I can easily report as I'm engaging it, and I'm just thinking of my own personal experiences, and I do a lot with birds, in terms of when I see the rare species stuff down in our neck of the woods, and I always make sure to do all of that, and so any of that stuff that is generally wrapped up in those reporting sheets I think are great, because it doesn't take anything other than, again, submitting through an app and however the app is distilling it on the backend of it, but it's kind of giving a little bit more autonomy to the volunteer, or the participant, and it doesn't have to be handed off to someone else, who then has to do a processing and then hand it off again. I think this is one that you could easily build in with the discards or however you wanted to do that.

MS. MARHEFKA: Seeing no other hands, Julia.

MS. BYRD: All right. Thanks for that feedback. I have written it down, and so we'll move on to kind of the next research priority, which is collecting information on rare or more data-limited

species observations. This is one that they supported keeping, and, when we talked about it within the group, we talked sort of about collecting kind of point observations for kind of rarely-encountered species, or unusual species, and that could help serve as kind of a warning system or a baseline for species that are shifting, which becomes important with climate change, and then I know we've also worked to develop a project with REEF, who works with volunteer recreational divers, to see if there's a way to try to collect -- To work with recreational divers to collect length information from some of our more data-limited species. In general, the group supported keeping this as a research priority and didn't have any changes to the language that they suggested.

DR. BELCHER: So the same comments that I had for 8, I support for 9, and I think that's definitely a good one that's easily assimilated through a cit-sci program and easy enough to do.

MS. MARHEFKA: All right. I have no one else.

MS. BYRD: All right. Next are diet samples, and so this is a priority that was added the last time we updated the priorities, back in 2019. When we updated the priorities back then, we hadn't identified kind of a list of target species, and so, this time, we reached out to Lauren Gentry, who presented to you guys earlier in the meeting, with the kind of Ecopath with Ecosim models, and she does a ton of work with those, and so she had done a literature review recently, and she provided this list of target species.

One wasn't provided in your briefing book, because she reached out to me just last week and added hogfish to this list of species that would be helpful to collect diet samples from. The group noted that kind of collections of stomach samples can be frozen, which makes it perhaps easier than collecting kind of a gonad sample, but noted that there are -- You have to kind of be able to partner with a group who would be able to kind of analyze the stomach contents for projects under this heading, under this topic. Again, they recommended keeping it as a research priority and suggested adding the highlighted species in yellow.

MS. MARHEFKA: Carolyn.

DR. BELCHER: I know you're going to tell me to keep my mouth shut, I guess, but I think this is one of the ones that if I had to say one to come off of the list, this is one of them, just because the stability of gut contents -- Even when it's on ice, it's still breaking down over time. If it's an idea of you're giving people vials, and you're dealing with formalin or alcohol or whatever, there's just a whole component to that that I think just logistically makes it a very, very, very difficult adventure to put in the hands of a citizen scientist, and so this would be probably one of the few that I would say, yes, it goes under the biological collections, but the logistics involved in this does not make it a good project.

MS. MARHEFKA: Anyone else to that point? Julia, I guess I'm not sure -- Do you need a motion or something to take an item off the list, or direction to staff?

MS. BYRD: I think we do direction to staff. I think, at the end, it would be great to have a motion to -- If the council is interested in adopting these research priorities kind of as modified, and so I'm trying to kind of take notes on my end on changes that you all want to see within these, and so I guess it would be helpful -- I know Carolyn said, if one was to come off, this might be one to remove, from her perspective, and I think it would be helpful to get feedback from the group if

you all feel like this is one that should be removed. I don't think we need a separate motion for that, and you can just provide guidance to me, and I will update the research priorities to address that.

MS. MARHEFKA: All right, Julia. I'm seeing a lot of nodding heads, and I'm not seeing anyone raise their hand in opposition of that idea, and so I will -- I took your note as far as what you need at the end of -- I'm sorry. I see Chester.

MR. BREWER: I was just raising my hand to say that I agree. I mean, I try to do this informally, just to see what the -- What I've been catching, to see what they've been eating, to figure out what might be the best bait for the next day, but, when you get into some of this stuff, you can't tell. You cannot tell, most of the time, what it is that you're looking at, and so, without training, I just don't see how this could work out for citizen science.

MS. MARHEFKA: Thanks, Chester. Yes, I think we have a consensus on that, and we'll -- At the end of the list, we will just make a motion to adopt this as modified, and so I see no other hands, Julia.

MS. BYRD: All right. Moving on, this next one is one that was added to the citizen science research priorities back when they were adopted in 2019, and it deals with kind of developing projects and working with fishermen to share information and kind of their personal fishing kind of logbooks or diaries, and the group supported keeping this as a research priority, but noted this topic was one that likely had a higher barrier than many of the other research priorities, due to the challenge of kind of finding fishermen who may be comfortable with sharing this information, and, if any projects were to be developed under this, confidentiality would be a huge issue.

Folks noted that the logbooks contain sensitive information, and people might be more willing to share kind of historic information that aren't as critical to their current operations, and they noted that it would be helpful to reach out to advisory panel members to kind of get their input on the feasibility of this kind of topic.

There were some folks who noted that many of the fishery-independent indices and recent kind of South Atlantic stock assessments have ended prior to the last year of the assessment, due to kind of management or regulatory actions, and so logbooks could potentially provide kind of finer-scale information that could allow indices to be developed throughout a longer time period, and so there was interest, and people thought these data could be helpful, but that it may be challenging to find fishermen who may be willing to share this level of information, and so, again, they recommended keeping it as a research priority, but noted that likely high barrier.

MS. MARHEFKA: Carolyn, go ahead.

DR. BELCHER: Yes, but I think, in terms of if you're looking at a cit-sci project -- I mean, it still fits all the niches of what is associated with that, and it's a voluntary program, and people are going to share to the level that they're comfortable with regardless anyway, and so I think it's just a matter of figuring out what you want from it, but then, again, if you're going towards the realm of where we end up with mandatory logbooks and all that, that's really kind of -- You know, voluntarily-reported logbooks are never going to be a direct substitution for a mandatory logbook, but, if you're looking for trends and things that are occurring in the fishery, I mean, it's at least

giving you some ideas of snapshots of what is happening. It's just a matter of how you choose to use, I think, that limits its utility.

MS. MARHEFKA: That's where I think the rub is. I mean, we already have mandatory logbooks for for-hire and commercial, and, obviously, the spatial information on the commercial logbook leaves a lot to be desired, but my concern with this, even if it is voluntary and there are guys willing to show up and do this, is that they would have some expectation that they would be giving all of this personal information in the hope that it would truly be used and improve a stock assessment, and I think, no matter how much we told them, and I think we would end up at the table and someone sitting there saying that I gave you all this data, and you're not using it in the stock assessment, and why aren't you, and it complicates that, for me.

That is what makes me nervous about this one, and I just think that -- Personally, this is one that I would take off the list, but there's also no harm in leaving it on, and, if we get close to doing it, I would have a lot to say, but does anyone else have any -- Chip.

DR. COLLIER: I know, right now, we're thinking about a lot of today. However, you could look at this as a historic database as well, and a lot of fishermen have handwritten notes, and it has -- A project like this has been used in Zooniverse to translate some of those handwritten notes into actual records, and so that could be a potential opportunity to get some historic data, much like the photographs.

MS. MARHEFKA: Go ahead, Trish.

MS. MURPHEY: I was just going to probably just say the same thing that Chip said, and I was just thinking of -- You know, I hear the fishermen talking about they have kept logbooks for thirty years of stuff, and it would -- That historical perspective, I think, would be what would come out of this particular priority and not necessarily here's my logbook from last year, but here's my logbook from twenty years ago and thirty years ago, and so that was kind of my thought on that.

MS. MARHEFKA: Yes, and I certainly don't object to leaving it on, and so, if there's any other comments on this. Go ahead, Trish.

MS. MURPHEY: Maybe we could clarify it and say -- Instead of "personal fishing logbooks, maybe change it to "historical personal fishing logbooks" or something like that.

MS. MARHEFKA: I see Julia has got that reflected in red there, and I think that's a great idea, because that's sort of where I was getting hung up as well, and so thanks, Julia, for making that change. I don't think we have any other comments on that one.

MS. BYRD: All right, and so the next three are kind of new ones that were added to the list from the advisory panel's discussion. The first one is monitoring in managed areas, and so this was a research priority kind of initially, when the Citizen Science Program developed research priorities back in the 2017/2018 timeframe. When the priorities were updated in 2019, it was taken off the list, because people felt like it may be more appropriate for a cooperative research sort of based project.

Since many of these management areas are far offshore, they felt like people may need to get -- Maybe they would need to be provided some kind of compensation to participate in a project like this, and so they felt that it was more appropriate for cooperative research, but, when the group discussed it again this year, they supported adding it back in. It was a topic of great interest to fishermen, and it was also noted that many of the spawning special management zones sunset in 2027, and so it's increasingly important to collect information from these areas.

Folks also noted that it would be helpful to get feedback from folks who are on our APs, to learn more about how often they typically fish near these areas and if they would likely require some compensation in order to collect information or sample them, and it was also noted that, in some of these areas, divers may be able to collect data, particularly in areas that may be closed to fishing but open to diving, and so they supported adding this back in as a research priority, and the language is on the screen that they're suggesting.

DR. BELCHER: This one I think is definitely harder, and it's, again, back to, if you're talking about spawning areas, and there is a spawning area closure, and you're going to have to give special dispensation to a fisherman to be able to help you collect during the closed season, and so, at that point, you're looking at exempted fishing permits, and so it's not necessarily a straightforward, hey, I can opt into this and do it, and so I think, for that one, there's a little bit more caveat to how that would be done. I would almost put that not in the biological set, but it requires a high amount of collaboration and a lot of consideration, and so it almost pushes it more to a CRP-type approach than a citizen science approach.

MS. MARHEFKA: That's a really good point, about the CRP versus citizen science. This one is a little near and dear to my heart, and I know that a lot of discussions we had when we were looking at these marine protected areas was the thought that we would be using fishermen to help us monitor it, and I also know that we need a lot of monitoring, but, yes, that caveat -- I don't know how it's done any other way, but I don't know if that necessarily -- We have to decide whether we're adding this as a research priority here. Does it hurt to have it here?

DR. BELCHER: I don't know that it hurts to have it there, but I just -- It's a priority for sure, in the sense of what it should be used for, but I just don't know that this is the best place for it to be, and I would almost argue for it to be in our recommendations under cooperative research projects.

MS. MARHEFKA: Chester.

MR. BREWER: The whole thing about needing an exempted fishing permit -- Those are complicated, and it's lengthy, and they're specific to a group of people, or a person, and it's just not going to work well for hook-or-line, but, when we were first talking about this, my thought is that you would try to get divers involved and go down there and see what's going on. I mean, are there are a lot of fish, or are there -- You know, you're not going to be able to really quantify it, but does it seem that fish are doing well within that particular managed area or -- What did we start calling them, instead of -- Anyway, it just seems like you could --

From a generalized basis, you could see whether the SMP appears to be effective and working, and I know that this was something that Chris was particularly interested in, because he didn't want to be shutting down parts of the ocean and it not having any effect, or any benefit, and I agree with him 100 percent, but I do think that you would probably have divers go down and look at

this, as opposed to trying to put -- If you put hooks-and-lines in, you're not -- You're going to run into some problems.

MS. MARHEFKA: Chris and then Trish.

MR. CONKLIN: The only research that I know of that was done by the fishermen is one of my friends and Zach Bowen actually did two trips to I think the Georgetown Hole for one week each and collected samples, and they did that through an LOA from Roy, a letter of authorization, but, other than that, that's all I could comment on.

MS. MURPHEY: Maybe we can change the specificity of this, just hearing people talking about divers, and so maybe take advantage of those citizen science divers, and does it necessarily have to be a managed area, but maybe just structured habitat or artificial reefs, and maybe kind of narrow that focus, and that might make it a little simpler and deal with the issues that Carolyn was mentioning.

MS. MARHEFKA: Yes, and I think that could work, especially if you take out the managed areas. Anything in the managed area, you're looking at an EFP, and it is a whole different ball of wax, and I do think -- I was thinking about the fact that there might be some harm in leaving it in here, because I don't want to give people the impression that it's just really easy for us to go out there and -- If we just put the effort into finding some fishermen to go out there and do the research, why aren't we doing that, when it's clearly much more complicated than that. In my mind, if we sort of talk about using divers to look at those data needs, and the targeted species, maybe, of a deepwater -- I guess deepwater diving might be -- But we sort of take out the monitoring of the managed area aspect of it, and that would make me more comfortable, but I don't think that we should imply that this is the mechanism that we can monitor managed areas in. Chip.

DR. COLLIER: I always think of things a little bit backwards than most, and so I apologize for this, but, I mean, there's also the opportunity to think of cameras, and so, if people aren't possessing any snapper grouper on their vessel, they can go to that area and potentially drop down a camera and see what's in the area. In addition to that, when you think of a recreational angler, they can't be part of a CRP program. They can't take funds for any effort that they do. Otherwise, they would fall into a different type of vessel, whether it's a charter or a commercial vessel, and so that's why -- At least in my thoughts, that's why you could keep this in there, because you would potentially be able to reach out to recreational anglers that might want to put down a camera and look in these areas.

MS. MARHEFKA: All right. Julia, I know that's clear as mud. I'm hoping that you will tell me magically that you are synthesizing everything we've said and that you can do something with it.

MS. BYRD: I think, from what I've heard, although Chip just kind of brought up some other points about videos and photos and things, and I am not clear. I guess I'm not clear, and so, Carrie, I'm not going to provide the clarity that you were maybe hoping, and so I have a couple of questions.

It seems like I have heard folks say that kind of they are not comfortable having monitoring in kind of managed areas here, and so you could remove the word "managed areas" and just have it be more general on habitat or reef structure or things like that, and then there is interest in having

kind of the target volunteers not necessarily be fishermen, but could be divers instead, and, if that's the case, it seems like videos or photos need to be added to the data needed list.

We might need to update this kind of target species, if we moved from managed areas to more general reef habitat, and I guess I'm not clear what direction folks want to go. It sounds like folks don't want to completely remove it, but they want to make it more general and not focused on managed areas, and is that right?

MS. MARHEFKA: It was until Chip's comment. I am going to go to Carolyn, but Chip sort of convinced me, and I do think his whatever backwards way his mind works is helpful for me, especially with the addition of the videos and the photos, and I am more comfortable leaving managed areas in, but, Carolyn, you may have a different --

DR. BELCHER: No, I'm comfortable. What I think you need to change is the "monitoring" and make it "observations in managed areas", something that basically says that we're getting an idea of what the species composition looks like, rough numbers of fishes, that kind of thing, as opposed to -- Because the "monitoring" implies that you're saying something about success or failure or whatever.

MS. MARHEFKA: That was brilliant. Thank you. Mel.

MR. BELL: Not to belabor this, but the managed areas -- I thought, originally, we were talking about like the deepwater MPAs, and we also have managed areas which are shallower water, and we've got a couple of shallow-water spawning SMZs, and so observations in those areas, and certainly the shallow ones could be achieved by divers, because that's what we do, and so I think leaving "areas" in there, and "observations" is great.

MS. MARHEFKA: Julia, that's clearer now, right?

MS. BYRD: Yes, I think so, and so we'll change it to "observations in managed areas", and I will add divers as target volunteers and add some of the data needed is videos and photos, and so it seems like it's not just deepwater snapper grouper, because there is some shallower managed areas, and so I can get rid of -- Just have snapper grouper maybe be target species, and then this would be more --

MS. MARHEFKA: I think you've got it now, and I think that was really helpful for that item on the list, and so thank you. That was a good discussion. When you're comfortable that you've captured that, we can move on to shark predation.

MS. BYRD: Okay. The next new one is a new one that is adding one on movement and migration, and then shark predation will be the next one, Kerry. This movement and migration one, the group talked about how there are a number of very successful kind of tagging programs, and so we added a kind of new movement and migration cit-sci research priorities. The target species listed were dolphin and wahoo. In the updated South Atlantic research and monitoring plan, it noted the need to define wahoo migratory patterns, and, through some of the work that was done through the dolphin wahoo participatory workshops, it was noted that it would be helpful to have more information on dolphin movement in kind of the Mid-Atlantic and the Northeast.

One thing that the committees noted when they discussed this was there are already successful tagging projects kind of within state agencies or within like the dolphinfish tagging program, and so any projects developed under this should work to support the existing programs and collaborate with the existing programs that are already kind of out there and very successful. Folks also noted that, if we have this movement and migration as a research priority, and identify some of the species that the council is interested in targeting under this priority, this could potentially be shared with many of those kind of tagging programs, to see if there's interest in kind of adding some of the species that are a priority to the council to the species that their programs are tagging.

The language that they're suggesting is on the screen, and, again, we want to emphasize that the idea here would be to work with and collaborate with and support the existing tagging programs that are already out there and not to start a new one, but to work with the ones that are already there.

DR. BELCHER: I agree that there's a lot of them out there that are doing it, and it's interesting, because, as time has evolved, what we're finding, and I'm sure Trish has probably seen these requests coming through too, is that tagging programs, because there's a lot of people out there and tagging, states are revisiting that, technically, you should have a permit to do this, and I think you start putting too many -- We've been asked, through ASMFC, a couple of different times, about how do you manage your voluntary tagging, and so I think, when you look at some of these, and dolphin wahoo is there, and you've got some of those overarching groups, like we have the Tarpon Trust that do all those different ones.

I think working with them, and the idea that it is truly like one of those things with cit-sci, because your citizens are helping you put tags out there, but the management of it -- You know, there's a lot that's involved in that, if you want to keep it long-term, and so there's a lot more to it than just we can get a ton of tags out that way and learn so much more about it, and so I think this is another one of those cautionary ones that I think it's a good thing, and I'm not saying it's a bad thing. We have a large investment in Georgia in it, but even, like with us tagging sharks, we're tagging under National Marine Fisheries Service. We get all of our tags through the Narragansett Lab, and we don't have a single shark tag that is a Georgia tag, and so just to throw that out there.

MS. MARHEFKA: Mel.

MR. BELL: Just to follow-up on that, we actually have a state law that makes it illegal to tag fish, unless you have a permit from us, in the salt waters of the state, and that's because we realized that tagging, while it seemed like a great idea, if everybody just goes out there and sticks tags willy-nilly in everything, it could be very confusing, and so, yes, it's very structured for us, and the sharks are the same thing, and so that's just something to keep in mind, that the individual states have requirements as well, and tagging is a great tool, and that was our point. Tagging is a great tool that can be used, but you don't want to misuse the tool, or abuse or dilute its effect, and so that's why we have that law in place.

MS. MARHEFKA: Trish.

MS. MURPHEY: Just to add -- I am just thinking out loud here too, and, because our states already have tagging programs -- I mean, it's out there, and we can get -- We've already got a system in there that we need to get volunteers to take some of our tags and out do it, and it's there, and so

that's why I'm wondering, and does this really need to be a priority, because it's already kind of ongoing, to the most part.

MS. MARHEFKA: Go ahead, John.

DR. WALTER: We have a tuna and marlin tagging program administered by the Center that has been in existence for many years, and maybe that's a good route for this, given that dolphin and wahoo can be tagged as part of it, and it's already got the infrastructure for that, and there are probably similar fishermen who may already be tagging tunas and marlin, and it's just sort of referred to the NMFS Cooperative Tagging Center, and that might be the way to route it to something that's already ongoing and existing.

MS. MARHEFKA: What I'm hearing is that maybe what this -- Less of it being a research priority, and maybe it's a connector of sorts, and maybe we identify people who then we farm out to NMFS and the states, where you have applicable programs, and you handle it from there, or am I hearing that we need to take it off completely or leave it on with a big old caveat?

DR. WALTER: My recommendation, given the level of interest in dolphin and wahoo from stakeholders in the South Atlantic, is that we just make that connection and say, hey, you can tag through the NMFS Cooperative Tagging Center, and that data then would be available and readily accessible, but there's not a need for the council's cit-sci to do that work and duplicate what's already in existence.

MS. MARHEFKA: Julia, I am getting -- You have to remove, and, unless I see anyone shake their head no, then I think that that will be amended to remove that. Chip.

DR. COLLIER: Once again, this is not just something that the council is going to work on. This is something that the program would endorse different priorities, and so it's not necessarily what council staff are going to be working on, and this could be the council writing letters to support this, or Julia spending time connecting with a tuna and marlin tagging program, and, to me, that is a -- It could be a very high priority, because it's very easy to do. It's just a simple connection, and it would achieve one of the priorities for the citizen science research.

DR. BELCHER: I am going to speak -- Just based on what John Walter said, it seems to me like there is a -- That this wouldn't even need to be identified, because he said it seems like we just need to know that you want to do that, and the mechanism is already there, and you can do it, and so do you need to put it in as a priority if you've already got someone identified saying this is an easy ask and we can do it and, if this is really something you want, we can implement it.

DR. COLLIER: So, if you remove it, then what would you build your record on saying that you want it? I think, if you keep it in there, you can say here's a document, and you can see it's a priority for them. I'm thinking along the ideas of a research grant, where you're thinking this is a list of priorities, and these are the priorities that we're meeting through the research grant, and so that's my thought process.

DR. BELCHER: I guess maybe I was -- Maybe I just misunderstood how John was presenting that, but it sounded like, to me, that all you would need to do is ask and we can do that, and so the idea is, if it's something like -- I mean, we're talking about it on the record right now, that it seems

like there's an easy door opening there, and why would we need to put it in writing for something that we're not going to look back at in two years, if, in a month-and-a-half, there's tags to go into dolphin wahoo, and I guess that's what I was -- Maybe that was just wishful thinking.

DR. COLLIER: I mean, it's your priority, and so you can do what you want, but my thought process was just be inclusive as much as possible, and, if this is some low-hanging fruit, you can leave it in there, and it can be a priority that's easily achieved.

MS. MARHEFKA: Bear with me, Chip, but I'm wondering if this is -- Because it already exists, is this more of an outreach priority than it is necessarily a research priority, since the research has already been done, and then the role would be to be the connector of the people, which, in my mind, would be through outreach?

DR. COLLIER: Something that we often overlook is the endorsement side of the citizen science program, and we haven't done it much, but that's one of the things that we want to get to, is endorsing certain activities, and this is would be one of those things that let's say, a year-and-a-half down the line, somebody says we need to cut the NMFS bluefin tagging program, and they can show that they're working on this, and it's addressing an additional council need, and, therefore, it could show the benefits of the tagging program. I mean, there's different ways to think of it, but I'm just thinking along the lines of not only endorsement, but supporting our partnering agencies.

MS. MARHEFKA: That is definitely putting it in a different light. Are you comfortable with leaving it in there, thinking of it in those terms?

DR. BELCHER: I am not married to it either way. I mean, I could see that easily becoming a council research priority as well, and not necessarily a cit-sci one, or it could be in both places.

MS. MARHEFKA: It very well might be, because remember this is happening in conjunction with our research and monitoring plan, and I wish I was a person who could remember everything I've read, but I can't remember if it's there, but it very well could be.

MS. BYRD: I can tell you that wahoo migratory patterns are in the overall council research and monitoring plan. I don't believe dolphin is, but someone may be able to correct me if I'm wrong there. Another kind of -- Following sort of along the lines of what Chip was saying, or what John Walter was saying too, is we can reach out to kind of the NMFS Cooperative Tagging Research Center, and we could let them know that dolphin wahoo are of great interest to the council, but I don't know about if they have resources to support adding these species, or I just don't know how it works, and so I'm not sure if us having it highlighted somewhere as a research priority would put more, I don't know, credence behind that, and I don't know if it's appropriate for here, in our citizen science research priorities, and wahoo is included in the overall kind of council research and monitoring plan, and so I don't know if it fits better under there than here, but I'm not sure if us having it documented and written down somewhere may provide more kind of credence or support if we were to reach out to the NMFS tagging program.

MR. WOODWARD: Just to remind everybody, you've got this well-established, long-running dolphinfish research program out there that, as of -- According to the website, they had 1,896 tags deployed as of -- So that one has been going on for years, and so how does that merge into all of

this, because you've already got this well-established program, and they've got big-name industry sponsors, the West Palm Beach Fishing Club and all this kind of stuff, and so that's already going on out there, too.

MS. BYRD: Yes, and I think I do want to say, when the committee talked about this at their November meeting, they definitely said we don't need to recreate the wheel here, and there are successful tagging programs out there, and so, if we were to add this as a research priority to the council's citizen science kind of research priority list, we would do that in the means to help support or collaborate with existing programs that are kind of already out there and available, and so that could mean, as Chip has kind of implied, providing a letter of support for them to get funding or that sort of thing, or maybe helping develop grants, if that's something that would be helpful, and kind of having it on this list can perhaps help me spend more of my time figuring out how we can help these -- If we can do anything to kind of help support these groups that already have established programs.

I mean, I think we definitely don't want to recreate the wheel here, and there are a lot of great, established programs, and so I don't know if that means you all feel like this doesn't need to be added to the list, or if you think it would be helpful to add to the list, so that we can kind of try to support them more or see if they are interested in tagging some of the species that are of interest to the council, and so that's kind of a question for you all to figure out, whether we feel like it's covered by other programs and we want to remove this priority or if it would be helpful to keep it in.

MS. MARHEFKA: All right. Well, in the interest of time, I have a suggestion, but I do have some hands too, but just let me throw out my idea. Part of the issue may just be the way it's worded on the screen, because, as you talk about it and you add the caveats and the other discussions, it sort of makes sense where it fits in with the things that are existing, and so I wonder if, in the interest of our grumbling bellies, if it might make the most sense for -- Julia, do you have the sort of authority to maybe reword or sort of put an asterisk at the bottom of that slide, taking into account the discussion we've had, and then maybe we can email it to me, and we address this really quick when we approve this as a Full Council later? It's just a suggestion to move along, time-wise, and I don't know if that's kosher or not, but we could probably spend a really long time going back and forth on this, and I get hangry, and you guys don't want to be around me when I get that way, and so Dewey and then John.

MR. HEMILRIGHT: The dolphin tagging program is called Beyond Our Shores, and it's Wessley Merten, and it was a follow-up on what Don Hammond has done for twenty years, and so I think it's a great asset, a tool, and that they would be more than willing to take on some citizen science folks to do it.

DR. WALTER: I just wanted to echo that, and I was trying to think of the name of it, and I thank Dewey and Spud for bringing it up. I think there is multiple groups we can reach out to and how citizens -- If they want to get involved, and I would say the dolphinfish program is really the one that is focused on them, but I would say that it would be good for probably both of those programs, and I know for ours, to be mentioned here as a council priority, because then it gives them some direction in, okay, we would want to focus on this and make sure that that's something that can be supported or could be used to try to support the council priorities, because it's a two-way street, in terms of you tell us what you need, and we can use that to help get the resources. Thanks.

MS. MARHEFKA: Okay. I think we've beat this one to death. Julia, are you okay moving on, at the moment?

MS. BYRD: I'm good.

MS. MARHEFKA: Okay. That brings us to shark predation.

MS. BYRD: This is the last one, guys, and so the group suggested adding shark predation as a research priority. This issue has been raised at a number of council meetings and advisory panel meetings, and the group discussed that, although the council doesn't manage sharks, depredation issues kind of affect many of the council-managed species, and the issue is, obviously, of kind of great interest to kind of fishermen and council members and many advisory panel members, and so making it a research priority could help raise awareness of the issue.

The group did discuss that, if you're collecting information on kind of observations of shark depredation, it's not clear how kind of the data collected would be kind of directly applied to council management, but it would be able to start quantifying the interactions, and there's actually a citizen science project underway in Florida now that you guys talked about an EFP for them, I believe in September, that is starting to do some kind of citizen science shark predation work, and so I think we'll be able to kind of learn from their efforts, and I have been in touch with them, just to learn more about kind of their project, and so the group felt that this has been brought up by kind of so many constituents that it made sense to add it to the list and the language along the screen that's highlighted in yellow that's being suggested.

MS. MARHEFKA: Carolyn, go ahead.

DR. BELCHER: I think it's a good one, but the one thing that I will caution on, and Dewey can probably talk to this too, but maybe, as far as the species, and it may be that the species that was preyed upon -- Because the chance of you identifying what hit it is difficult to none. I mean, it's amazingly how quickly you can throw something over a boat, and there's three zippy bodies, and you have no idea what it was that went by and hit it. I think, from the standpoint of what fisheries are being impacted by it, that focus being more on the species that was eaten, rather than what did the eating.

MS. MARHEFKA: Dewey, go ahead.

MR. HEMILRIGHT: Particular to this, I think there's a number of things that has taken place, with some DNA samples, in the Gulf, and there's a lot of things, and maybe the research priority here, particularly the shark predation, will look at other, ongoing things and how would they complement them, before starting something that is totally different, because I think there is numerous things, with social media and different documentation, that is already there happening.

MS. MARHEFKA: Julia, do you have what you need?

MS. BYRD: I'm good, and I guess I will stress, again, that the Citizen Science Program really doesn't want to duplicate other people who are already out there doing the work, and we want to kind of try to fill data gaps or kind of work with existing programs and partnerships, and so I think

it's a great point that we really need to kind of look to other folks who are already doing this research and see where we could potentially help plug in or collaborate or help support what they're doing. That's the last research priority, if there's no one else who has hands raised, Kerry.

Then just the last thing, and I know we're limited on time, and so there were other kind of suggestions that were discussed, but not recommended at this point, and kind of the explanations are in your Attachment 1a that kind of describe why they weren't added, and so I'm not going to get into them here, and then I think there were a couple of other issues that were brought up that were more kind of broader than just research priorities, but one is working more closely with the dive community, which has been brought up a couple of times during our discussion, and the other is to kind of explore an idea of a research fleet for citizen science projects, with the idea that maybe you could put together or develop a smaller group of vessels that are kind of highly trained in the scientific process and that are really interested in participating in data collection that could become kind of a group of kind of super volunteers that you may be able to reach out to first when you're developing projects.

Folks noted that the Northeast had a research fleet, and I don't know very much about that, and so I was interested in kind of reaching out to them to learn more about their program and just seeing if that kind of idea could be incorporated into our efforts, but that is all that I have on the research priorities now, Kerry, if folks -- If folks want to adopt these, we would need to have a motion to do that. I have drafted one that you all are welcome to kind of change the language on, as needed, or as you see fit.

MS. MARHEFKA: All right. Thank you. Perfect. Would anyone like to make this motion? Carolyn.

DR. BELCHER: **I would like to move to adopt the updated citizen science research priorities, with modifications, as suggested.**

MS. MARHEFKA: All right. We have a motion by Carolyn and seconded by Trish. Any further discussion? **Any objections? Seeing none, the motion is approved.**

Julia, I think maybe the best plan of attack, after talking with Chairman Bell, is to sort of find out if there's anything that you really, really want to highlight, as far as some of the programs and the projects that I know you're going to share with us that is outside of what's in the attachment, anything you want to just make sure we know, and I think it's probably asking a lot to go through the entire presentation, time-wise. Do you feel slighted if we handle it that way?

MS. BYRD: No, and I know that you guys are probably hangry and about to eat your arms off, and so I think you guys can kind of look through the presentation and kind of get an update on things. I guess a few things I would point out is that, one, I just wanted to folks know that some of the kind of program evaluation work we're doing with Rick Bonney, to kind of get baseline information on trust levels and engagement and collaboration with kind of the first phase of that project is underway, and we're trying to interview kind of six scientists, fishermen, and managers, and I know that many of you guys have been contacted and have been gracious enough to kind of let Rick interview you to collect information, and so we have -- We're trying to do eighteen interviews, and nine are complete, and so we have nine more that should hopefully be done by the end of December or early January, and then we should have a report for that for you guys to look

at in February, and so I just wanted to thank those of you guys who have participated in the interviews.

Then I mentioned this earlier, but we are trying to wrap up the analysis and report for the FISHstory pilot project, and we're hoping to have that done in January, which can be shared with you all, and then, as far as the SAFMC Release project goes, Nick has really been leading efforts on that project since he came onboard, and, from the feedback that you guys gave in September about trying to kind of expand that project from collecting information on just shallow-water grouper to include red snapper, and there are some challenges with adding red snapper, and so we have been working with a planning group made of some assessment scientists, some fishermen, some of the kind of software developers and data managers, to kind of figure out how to do that, and we're hoping to add red snapper to that project by the spring of next year.

Those are kind of a few highlights, and, if anyone has any questions, after looking at the presentation, feel free to reach out, and I'm happy to share any additional information with you all.

MS. MARHEFKA: Julia, thank you, and the time that we sort of took away from you to give that update is not reflective of sort of how we all feel about the importance of what you do and what a great job you do at it, and so thank you very, very much and for phoning-in today, and I think, with that, this committee is adjourned.

(Whereupon, the meeting adjourned on December 9, 2021.)

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February 1, 2022

SAFMC December Council

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Attendee Details

Attended	Last Name	First Name
Yes	BROUWER	MYRA
Yes	BYRD	01JULIA
Yes	Bachelor	Nate
Yes	Bianchi	Alan
Yes	Bonura	Vincent
Yes	Brennan	Ken
Yes	Brown	Julie
Yes	Burgess	Aurora
Yes	Calay	Shannon
Yes	Chaya	01Cindy
Yes	Cheshire	Rob
Yes	Christmas	Merry
Yes	Clarke	Lora
Yes	Conklin	The Real Chris
Yes	Copeland	00 Robert
Yes	Cox	Derek
Yes	Curtis	01Judd
Yes	DeVictor	Rick
Yes	Diaz	Dale
Yes	FRANCO	DAWN
Yes	Finch	Margaret
Yes	Fitzpatrick	Eric
Yes	Foor	Brandon
Yes	Foss	Kristin
Yes	Friedman	Leah
Yes	Gentry	Lauren
Yes	Glazier	Edward
Yes	Godwin	Joelle
Yes	Gore	Karla
Yes	Guyas	Martha
Yes	Hadley	01John
Yes	Helies	Frank
Yes	Hemilright	Dewey
Yes	Herrera	John
Yes	Hoke	David

Yes	Howington	Kathleen
Yes	Iberle	01Allie
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Yes	Iverson	01Kim
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Yes	Karnauskas	Mandy
Yes	Kellison	Todd
Yes	Kelly	Aaron
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Yes	Laks	Ira
Yes	Locker	Stephen
Yes	M TARVER	TIM
Yes	Malinowski	Rich
Yes	Martin	Drew
Yes	Masi	Michelle
Yes	McCoy	Sherylanne
Yes	Meehan	Sean
Yes	Mehta	Nikhil
Yes	Merrifield	Jeanna
Yes	Muehlstein	Emily
Yes	Muffley	Brandon
Yes	Muñoz	Roldan
Yes	Neer	Julie
Yes	Nesslage	Genny
Yes	Newman	Thomas
Yes	O'Donnell	Kelli
Yes	OShaughnessy	Patrick
Yes	O'Brien	Lauren
Yes	Package-Ward	Christina
Yes	Porch	Clay
Yes	Pugliese	01Roger
Yes	Ralston	Kellie
Yes	Records	David
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Yes	Rhodes	01Cameron
Yes	Roller	00Tom
Yes	Runde	Brendan
Yes	Sagarese	Skyler
Yes	Schobernd	Christina
Yes	Sedberry	George
Yes	Seward	McLean
Yes	Simpson	Julie

Yes	Smillie	01Nicholas
Yes	Sramek	Mark
Yes	Stemle	Adam
Yes	Stephen	Jessica
Yes	Sweetman	CJ
Yes	Vincent	Matthew
Yes	Walia	Matt
Yes	Waters	Jim
Yes	White	Geoff
Yes	Whitten	Meredith
Yes	Wiegand	01Christina
Yes	Wiseman	adam
Yes	Wyanski	David
Yes	brewer	00chester
Yes	colby	barrett
Yes	emery	jeff
Yes	gloeckner	david
Yes	locke	charles
Yes	moss	david
Yes	sandorf	scott
Yes	schiaffo	charlotte
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