SOUTH ATLANTIC FISHERY MANAGEMENT COUNCIL

SNAPPER GROUPER ADVISORY PANEL

Town & Country Inn
Charleston, South Carolina

October 9-11, 2019

Summary Minutes

Snapper Grouper AP Members

James Hull Jr., Chair
Vincent Bonura
Randall Beardsley
Robert Freeman
Rusty Hudson
Gary Manigault Sr.
Jim Moring
Fentress "Red" Munden
James Paskiewicz
Dr. Todd Kellison
Robert Lorenz, Vice Chair
Richen "Dick" Brame
Jack Cox Jr.
Richard Gomez
Deidra Jeffcoat
Randy McKinley
David Moss
Kerry O'Malley-Marhefka
Cameron Sebastian

Council Members

Jessica McCawley
Dr. Roy Crabtree
David Whitaker
Chris Conklin
Tim Griner

Council Staff

Gregg Waugh
Dr. Brian Cheuvront
Julia Byrd
Cierra Graham
John Hadley
Christina Wiegand
John Carmichael
Myra Brouwer
Dr. Chip Collier
Dr. Mike Errigo
Cameron Rhodes
Allie Iberle

Other Observers and Participants

Dr. Marcel Reichert

Other observers and participants attached.

The Snapper Grouper Advisory Panel of the South Atlantic Fishery Management Council convened in the Town & Country Inn, Charleston, South Carolina, October 9, 2019, and was called to order by Chairman Jimmy Hull.

MR. HULL: It's time to get started. Welcome, everyone. Hello, everyone. Welcome to the fall Snapper Grouper AP meeting. It looks like we have a pretty good turnout here, and I appreciate everyone's effort and commitment to the process. We have a great opportunity here, and you're a diverse panel of stakeholders. Take this opportunity to better inform management and science of our fisheries resources. You were appointed to this panel because of your knowledge, wisdom, and experience. The council wants to hear from you, and so let's begin. I will be recognizing people to speak as we move along, and so we want to at least try to get through as much as we can here every day, because things get delayed as we get into discussions, and so, Myra.

MS. BROUWER: Good afternoon, everybody. I'm glad to see everybody around at the table, and there's a few AP members that are not here, and so we may -- I haven't checked to see who's on the webinar, but, if they want to participate, I will acknowledge them and make sure that they're able to speak up. Mr. Chair, I was going to suggest that we do a round of introductions, just to make sure for the voice recognition.

MR. HULL: We'll start over here with you, Rusty.

MR. HUDSON: Rusty Hudson, Directed Sustainable Fisheries, a sixth-generation waterman.

MR. BRAME: I'm Dick Brame, and I'm the Regional Fisheries Director with the Coastal Conservation Association.

MR. SEBASTIAN: Cameron Sebastian, Operations Manager at Little River Fishing Fleet, Hurricane Fleet, and Coastal Scuba, Myrtle Beach, South Carolina.

DR. KELLISON: Todd Kellison, NMFS Southeast Fisheries Science Center, and a reminder to everyone that I'm a non-voting member of the panel.

MR. BEARDSLEY: Randy Beardsley, and I'm the President of Halifax Sportfishing Club in Daytona Beach, Florida.

MS. JEFFCOAT: Deidra Jeffcoat, for-hire charter captain, Savannah, Georgia.

MR. HULL: Jimmy Hull, commercial fisherman, Ponce Inlet, Florida.

MR. LORENZ: Bob Lorenz, recreational fisherman, Wilmington, North Carolina.

MR. GOMEZ: Richard Gomez, charter/for-hire, Key West, Florida.

MR. BONURA: Good afternoon. Vincent Bonura, commercial fisherman and wholesale dealer out of Florida, south Florida and the Florida Keys.

MR. MUNDEN: Red Munden, retired marine fisheries biologist with the North Carolina Division of Marine Fisheries, and, actually, I am semi-retired, because I still represent North Carolina

Marine Fisheries on the Marine Mammal Take Reduction Teams, and I live in Morehead City, North Carolina.

MR. PASKIEWICZ: James Paskiewicz, commercial fisherman and wholesale dealer, Middle Keys, Florida.

MR. MOSS: David Moss, south Florida, recreational fisherman.

MR. MORING: Jim Moring, recreational fisherman and owner of Amen Street Fish & Raw Bar, Charleston.

MR. MCKINLEY: Randy McKinley, commercial fisherman and federal dealer, Topsail Beach, North Carolina.

MR. FREEMAN: Robert Freeman, charter/for-hire, Atlantic Beach, North Carolina.

MS. MARHEFKA: Kerry Marhefka, wholesale dealer and wife of commercial snapper grouper fisherman and former fishery biologist for council staff.

MR. HULL: Thank you for that. That's a good crowd. We've got a good group here, and we also have here today, from the agency and from the council, we have Dr. Roy Crabtree and Council Chair Jessica McCawley, and we've got Councilman Chris, and we have David Whitaker, and we have Gregg Waugh and Tim, and so we've got everybody here.

With that, we're going to move forward and have Approval of the Agenda. We've got twelve or thirteen items here, and so we've got quite a bit to cover, and it looks like some really interesting stuff, and so can I have a motion to approve the agenda? We don't need a motion, she says, and so it's done.

The next item is going to be Approval of the April Minutes, and, if you have all had a chance to read that, we need a motion for that. We're going to approve those minutes. They have already been presented, and they're in codified text now, and so they're done. Moving on, we are going to have -- The first item is the Status of Amendments Under Development or Under Review, but, first, Gregg wants to address us.

MR. WAUGH: Thank you, Mr. Chairman. I think most of you have heard that I am retiring at the end of the year, on December 13, and the council has selected John Carmichael as the next Executive Director, which we're excited about, but I just wanted to take this opportunity to thank you all for all of your service, and I know, at times, it's frustrating, and you don't feel like the council listens to you, and the council always listens to you. They may not always do what you suggest they do, and that's where, I guess, we get some of the rub, but I have worked with the Snapper Grouper AP for a long time, and I just wanted to thank you all and all the past members for their service, and I know it takes time out from your job, but we appreciate it.

The council's job is much easier and better informed with you all's input, and you can tell you're getting older and it's time to move on when you get some of your staff that leave and marry fishermen and then show up on the APs, and, a long-time council member, Phil Conklin, who I worked with for many years, when their kids show up as council members, and it really tells you

that you've been around, and so just thanks very much. I appreciate all your time and effort, and please continue to contribute. Thanks.

MR. WAUGH: Thank you, Gregg, and thank you for your long career. The next item we are going to address is Public Comment to the AP. Is there anyone here that would like to deliver, from the general public, comment? Seeing none, we do have -- This is the first time I have seen this on a site for the AP, but we have a public comment that is given to the Snapper Grouper AP, and Myra is going to tell you how you can access this and read these comments, if you haven't already, because, a lot of the items that they're talking about, we're going to be talking about, and so take the time to make sure that you read these comments.

MS. BROUWER: Thank you, Jimmy, and so I just wanted to show you how to get here. You go to the council's website, and you go under Site Menu, and you go to Meetings, and that brings you to your AP page, Snapper Grouper AP is what's clicked right now, and, if you scroll all the way to the bottom, there's a link where you can read the public comments.

I just wanted to display some of the comments that have been submitted, and we're not going to read them into the record, because these are official comments, but just, if you get time this evening or whenever to read through these, and I wanted to acknowledge a Snapper Grouper AP member who is not in the audience submitted a comment, Greg Mercurio. We got comments from Chris McCaffity, Sherry McCoy -- This website is not cooperating with me at the moment, but, anyway, now you know how to get to the comments, and we wanted to acknowledge that those have been submitted for the AP to consider as you discuss these items this next couple of days.

MR. HULL: Okay, and so now we're going to move on to the first item on the agenda, which is the Status of Amendments Under Development or Under Review, which is going to be Attachment 1.

MS. BROUWER: Thank you, and so, as Jimmy said, you have an attachment that has a lot more detail than what I'm going to go over, and so I just put this presentation together to make it easier, mainly for me, to go through and make sure that I remembered to tell you everything I need to tell you, and, so first of all, just an update on the Vision Blueprint Recreational Regulatory Amendment 26. This is one that took some time to develop, and it was submitted last year, and we are awaiting publication of the proposed rule. This is the one that would remove the minimum size for the three deepwater snappers, reduce the minimum size limit for gray triggerfish off of east Florida, and change the twenty-fish aggregate and make it so that no more than ten fish can be of any one species.

Next, we have the Vision Blueprint Commercial Regulatory Amendment, and, again, we're awaiting publication of the proposed rule for this one, and I hear there's been some movement, and so hopefully this is going to happen soon. This one has several actions, the blueline tilefish trip limit, the snowy grouper split season, the greater amberjack split season and trip limit modifications, and the same thing for red porgy and vermilion, the minimum size limit for the commercial sector for almaco, a trip limit for the jacks complex, and then, again, the two similar actions, the deepwater snapper minimum size and the gray triggerfish minimum size.

One that the AP has talked about much is the Abbreviated Framework Number 3, which deals with blueline tilefish, and so this response to a stock assessment -- This would adjust the ABC for this

species in the South Atlantic, and it would include the area north of Cape Hatteras, and so this would establish new ACLs and a recreational annual catch target for blueline tilefish, and it would retain the same sector allocations, and the table on your screen shows you what the ACLs would be, and so it's a little bit of a bump, and this would be for 2020 through 2022, or until the next stock assessment, and so you can expect an increase in the fishing levels for blueline tilefish. I should say, if you want to linger on any of these, if you have any questions, just please let me know, but I'm going to through these kind of fast.

The next one is Amendment 42, and this is one that would add three new devices as options for vessels with federal commercial or for-hire permits for releasing sea turtles, and it would update those regulations to simplify and clarify the requirements for other release gear, and it would change the framework procedures so that changes for release gear can be made more quickly in the future, and so, right now, that amendment is open for comment through October 17.

Then we have Amendment 46, which we haven't talked about in quite some time. This is one where the council set out to explore a recreational permit and reporting requirements for private recreational. In September the council decided not to prioritize this amendment right now, and so it's currently not on their list for this year or next year.

Regulatory Amendment 30 deals with red grouper, and so this one establishes or revises the rebuilding for red grouper, which is overfished and undergoing overfishing, and so it would also extend the annual closure for the commercial and recreational harvest just off the Carolinas, and it would extend it through May and just for red grouper, and it would also implement a commercial trip limit of 200 pounds. This amendment was submitted, and it's under review with the National Marine Fisheries Service.

Regulatory Amendment 31, again another amendment that hasn't been talked about too much recently, and this one would revise accountability measures for the recreational sector, and not just for snapper grouper. This is a comprehensive amendment, and it would -- The intent there is to reduce the impact of uncertainty in recreational estimates to stakeholders, and so there could be some changes in how the accountability measures work, in order to accomplish that, and so the council is going to continue working, and they're going to talk about this in December.

Then there's a for-hire electronic reporting amendment, and this one has been under review for a long time. This would put in a mandatory reporting requirement electronically for charter vessels with a federal permit in snapper grouper, dolphin wahoo, and coastal migratory pelagic fisheries, and it would also reduce the time allowed for headboats to complete those electronic reports, and it would require location reporting by charter vessels with the same detail that's currently in place for headboats, and so that amendment was approved in June of 2018, and we have not yet received word of when that might be implemented.

Regulatory Amendment 29, the AP talked about this at length last time you met, and this is the best fishing practices and powerheads amendment, and it would require a descending device be onboard vessels fishing for or possessing snapper grouper, require non-offset, non-stainless-steel circle hooks north of 28 degrees North latitude, require non-stainless-steel hooks throughout the South Atlantic waters, and allow powerheads to harvest snapper grouper species off of South Carolina, and so the council talked about this in December, and they approved it for submission to NMFS, and so we're getting that one ready to go out the door, and so that's exciting.

Then we have the wreckfish ITQ review, and this was approved in September, and this is basically just a review of the ITQ program, but there are some recommendations in that document for a management action, and so the council has given us direction to begin developing an amendment that would modernize the wreckfish ITQ program.

Then visioning, and so the council wants to include the new objectives, the ones that you all reviewed and recommended inclusion as the objectives of the FMP, and they did want to go ahead and do that, and so they've given us direction to include an action to do that in this upcoming wreckfish amendment, and we also talked about the comprehensive review of the vision blueprint that was supposed to take place in January through June of next year and then adopting and developing a new blueprint that would go from 2021 through 2026. The council decided that they would instead want to continue to address the items that are in the current blueprint, and so we're kind of slowing down on the whole visioning thing for now, and I think that's it. Any questions?

MR. LORENZ: Myra, I was just wondering -- I couldn't attend the meeting, but the decision to not proceed any further on the Amendment 46 part of having a recreational permit and reporting, and just a little color on that, and how did that transpire and get into -- That's a bone of contention amongst many people in getting the two sectors together, and so I was just wondering how that went and how the decision was made.

MS. BROUWER: Well, you know, I'm going to look to Council Chair McCawley for a little more detail on that. The council -- Every meeting, they go through this tiering process, where they prioritize all of their amendments, because they have so many right now, and so they went through the process, and each council member fills out this tiering exercise that we put together for them, and this one just did not come up in the list of priorities, and there are so many other things that the council is addressing right now that it just, because of staff workload, didn't get prioritized, but I don't know if Jessica would like to say some more about that.

MS. MCCAWLEY: As Myra mentioned, there were a number of things that we're working on, and so there's a lot of things that we wish that we were working on all at one time, and staff can only do so many things at once, and so it is something that we're considering. I can tell you, at the state level, that FWC is working on recreational reporting in other ways, but I definitely think it's coming back. We did have it on the list, and we had to move it off, because we're continuing with some other things that maybe have shorter deadlines, and we hope to pick that one back up soon, and there were a number of other items like that that we had to push back a little bit.

Part of it has to do with everything from the new MRIP numbers and bringing those in and bringing those into the new stock assessments and looking at allocation and some other things that were kind of already in the hopper, and so we had to put recreational reporting to the back-burner a little bit.

MR. HULL: Thank you, Jessica. I had a question. A lot of these are fruits of our labor, so to speak, that we've all seen this, and we've all been working on these amendments and advising and recommending, and we came up with these, and Amendment 27 was a long time ago that we did that, and it still hasn't been implemented, and so I guess it's something that is out of our control at that point, and it's in Commerce and Washington, and, when they finally kick it out, then we get it, but it doesn't do any good to holler at them.

MS. MCCAWLEY: Well, Roy is here, and I don't know if Roy wants to address that, but I think that you guys and the council -- We would like to see a number of those things moving through, and the council really feels the same way about the best fishing practices amendment that they just finished, and so, just like you guys, after we pass it, we get anxious about when it's going to actually be implemented, especially if you're from a state agency and need to do something similar for state waters, and we're certainly following that and tracking that, but I don't know if Roy wants to add anything else about the movement of these items through the Secretary's office.

DR. CRABTREE: Well, there's not much I can say, except things aren't moving quickly in Washington, and I can't give you a reason as to why that is, but it's just the way it is, and so I'm here, and I'm happy to listen to you, and you can yell at me, but that won't make them move any faster in Washington, and so there's just a lot of actions, and it gets up there and -- I have nothing to say.

MR. HULL: Thank you, Roy. Any other -- Go ahead, Jack.

MR. COX: Jessica, could you give us any insight on Amendment 46? Is there any kind of council discussion on what a permit would look like? Was it a recreational stamp? Is there any discussion at all that came up, any options?

MS. MCCAWLEY: It's been a while ago since we talked about it. There was everything from it seems -- It my recollection is everything from something that would be for federal waters or states implementing a permit through a state system, and I can't remember all the specifics, and I'm going to look over here and see if Gregg knows more of the specifics, or Chip, maybe, on the specifics.

DR. COLLIER: It's been a while since I looked at it as well, but there were options to require permits for just certain species, require permits for all species. Because it is a federal plan, we focus just on federal actions, and we don't necessarily get into state actions, and so we didn't have those options in there, and that would be included under status quo. We would describe that that could be a consideration if status quo is selected, to encourage states to try to develop a permit. Does that address your question?

MR. COX: I know we've been talking about it since 2013, and it's unbelievable that we're this far down the road and --

DR. COLLIER: Well, an example of a permit is MyFishCount. That actually is -- Every time somebody logs on, that's essentially creating a permit, and there is nothing required on the federal side, but it can incorporate all the information that's required from a permitting system. That's one reason that we were exploring MyFishCount, was to see what permitting could look like, how it could be set up, and then how reporting could occur as well.

MR. HULL: Thank you, Chip.

MR. WAUGH: Just to add a little more, in response to Jack's question, Chip mentioned MyFishCount, and that work will continue into next year, and then we'll transition the operation of that app to the Angler Action group, and so that will end the council's involvement, but we do

have that amendment hanging out there. We do intend, and groups are working to promote, use of MyFishCount, and the, more that's used, the more data that would be available to be considered in stock assessments.

When the council gets back to looking at that amendment, that is an option that could be developed, as Chip mentioned, for the EEZ for just snapper grouper or for other species, but a big concern with any permit is all the administrative structure that would be needed to support that.

Well, this app could be modified to issue the permit, and that permit information could go straight to ACCSP, where the landings data goes as well, and the National Marine Fisheries Service could pull that data from there, and so technology is out there to look at different ways to improve reporting, but that would be a longer-term process, because that then has to be certified by the MRIP program, but that's something that's there, and the council has worked with partners to develop the app, and hopefully that app will continue and its use expands, and so, when the council comes back to it, the mechanism is there to where it could move along more quickly. Thank you.

MR. HULL: Thank you, Gregg. Did you have a follow-up, Jack?

MR. COX: I just have to say how frustrating it is, for twenty-plus years that we've been reporting, and I spend hours a week doing my reporting, and we're still not there yet with the recreational, and that's all.

MR. PASKIEWICZ: I am not sure that this is the appropriate time to ask this question, but, since we're talking about MyFishCount, what sort of security measures are in place to prevent some sort of a robot reporting, like we've seen through different places that we call, and you have to verify who you are, and there's a verification process that has to take place, and is there anything in that app that is a security measure so that every day -- So that nobody is logging on and creating an artificial report.

DR. COLLIER: There is a verification system when you sign up for the app. You enter your email address into it, and, from there, it's where you would get your password, or you log on and acknowledge that you're a user, and then you would begin entering your data. It would take some training in order for the computer to do it, but that's one of the future directions for something like MyFishCount and electronic reporting, is we need validation for it, to make sure we're getting accurate reports, and so that would be something to consider, and then there's ways that you can go through there, and you can look at if somebody is reporting certain things. I mean, you're going to get a report on MyFishCount later on in the meeting, and you can see exactly what the data looks like and what kind of analysis we can do on it, in order to check for such things.

MR. HULL: That was a great question, and it sounds like, Jack, going back to your question and statement, that they are working on it, and it will probably -- The recreational reporting, it looks like, and permitting, is going to be totally different than what you and I are used to in the commercial permitting office, and it may be a whole new -- Which it looks like, the way it's going, it will be apps and things like that. Any other questions?

MR. MANIGAULT: Good morning. First of all, I would like to apologize for being late. In the State of South Carolina, we utilize VESL, and I think that would be a great template in this state for them to utilize for that purpose, as far as recreational reporting. Like you said, we would

probably need some form of measures to make sure it's not a robot reporting, but that's a good program that they do have for the charter captains and everyone else to report on, and I just think it's a great template for them to have a look at and crossing it over, possibly crossing it over, to recreational guys, in regard to that, and make whatever adjustments that they need to make to the actual program, but I think that's a great template. That's all I had.

MR. FREEMAN: My concern is that the MyFishCount is a voluntary thing, and you're not tracking how many boats are out there on a given day, and so, if I want to go catch the snapper grouper and come in as a private individual, and there are hundreds of those boats out there each weekend targeting these fish, and they not only aren't licensed, but they are not being counted as somebody that is partaking of the resource, and so how are we going to know what's really out there and what's being reduced in the biomass if we don't have some kind of permitting for these recreational boats and reporting of their catches?

I know it can be a pain for somebody, but, if we're truly interested in managing the fish, you have a high percentage of them that are not being managed. That's the voice of experience. I ran charters for thirty-three years, and I know how easy it is to go bring in fish that's not counted, and I live on the water, and I have neighbors that focus on these fish, and I see it happening, and I know it's happening. Thank you.

MR. HULL: Thank you, Robert.

MR. MANIGAULT: In the MRIP program, because I finally, after all these years, ran into a gentleman out at the Shem Creek landing, a couple of weeks ago, after coming offshore and blowing a prop, but they've got a tough job dealing with the guys, but his approach made a difference to a lot of the people that were there, and some of them gave him a hard time, but I just wanted to say that they are out there, and they are doing their jobs. Thank you.

MR. HULL: Okay. We're going to move on, if there's no more comment or questions. We're going to move on to the next agenda item, Item Number 2, which is going to be an update on the Southeast Reef Fish Survey, presented by Dr. Wally Bubley.

DR. BUBLEY: Hi, everyone. Thanks for having me here, and I think this is a good opportunity. We have presented these findings at council meetings and the SSC meetings, but I think you guys will probably get a lot out of this too, and so I'm glad that -- It's the first chance we've had to do this, and hopefully this will be an annual thing that we can move forward with.

Let me orient you a little to SERFS. A lot of people have heard of MARMAP, and that's part of this, but it's become a little more collaborative effort that has allowed us to sample more stations out there. SERFS is the Southeast Reef Fish Survey, and it's composed of MARMAP, SEAMAP South Atlantic, and SEFIS, and we are typically using the four vessels that are located here. MARMAP and SEAMAP are utilizing the RV Palmetto and the Lady Lisa, based out of Charleston, and the SEFIS group is out of Beaufort, North Carolina, and they are utilizing the RV Savannah and the NOAA Ship Pisces.

You can see on here the number of days at-sea from last year, and so, while our sampling season just concluded, we won't have that data available for a little while, and so this is going to actually be from 2018 that I am going to be reporting on today, or through 2018, at least.

The main gear that we're using in this survey is the chevron video trap, and we're attempting to target low to medium-relief live bottom, and so we're not just trying to drop it in the sand. Occasionally, they will go into the sand, but we're trying to actually sample habitat where we're expecting fish to be at some point. The gear is typically deployed in depths up to about 110 meters, and we have tried to be consistent and standardized with the use of this gear since 1990, and so it's nearly thirty years where we've been fishing it the same way.

The soak time is roughly ninety minutes, and we bait it with menhaden, and a relatively new recent addition to this is the cameras that we put on the traps, and, if you can look down here, we typically have two to three cameras. We have one that faces out over the nose, and we have one that goes out over the mouth of the trap, and occasionally we'll have a camera that goes on the inside, so we can see the behavior of the fish as they're going through the funnel to get into the trap, and, obviously, this picture was taken from something, and this is a camera that we put on the line that goes up to the surface, so we can look down on it, but, typically, the two in the red are the ones that are on every single trap, and then we'll occasionally have some of these other cameras as well.

These other cameras, while they help us with species that don't really trap very well, and like actually hogfish work for that as well, but it gives us an idea, sometimes, of some of the behavior that's going on here. I mean, this is some hogfish that are showing some courtship displays, but we'll see a lot of this with some of the other reef fish species, where we can try to identify potential courtship behavior that may identify potential spawning of these fish as well.

Another gear that we use is the short bottom longline, and this is a gear that we utilize in higher relief areas, and so, if we tried to put a chevron trap down in a really high-relief area, it could just fall on its side or upside down or something like that, and so this gear is essentially a modified longline, and it's about ninety feet in length, and we put twenty hooks on this that are all baited with whole squid. Typically, we're putting this in deeper water as well. We have tried to deploy it in shallower water, in the hopes of looking for some of the grouper species in the shallow water, but the bait tends to get -- The thought is that it gets picked clean by a lot of the smaller fish, and so it doesn't work great in the shallower water, and it works a lot better in deeper water, and so we'll use it for snowy grouper, speckled hind, jacks, tilefish, that kind of thing. Similar to before, we soak it for about ninety minutes, and it's baited with whole squid.

This gives you an idea of the range that we cover. We're covering the entire Southeast, the Atlantic waters off the Southeast U.S., and we're going from about Cape Hatteras, North Carolina down to around Port St. Lucie, Florida. These blue Xs are indicative of the chevron trap universe. There's about 4,300 stations that we have. Of those, we sample, or randomly select, about 1,500 of them annually, and so we're trying to get a good coverage along the entire coast in all the depth ranges.

Short bottom longline are the yellow Xs, and, obviously, it's a lot smaller area. We haven't had the opportunity to expand this as much as we would like, but we have fairly good coverage off the coast of South Carolina and into North Carolina as well.

While every fish that we catch we take a measurement on and get weights for and identify it to species, we will also do some more workup of some of the species that are more priority species, more in the fishery or that fishermen are caring about, and we'll do life history, such as removing otoliths and gonads, and we process these up in our lab here, and we also look at the data that we

obtain from these traps and longlines and try to produce indices of abundance that are utilized for assessment purposes, and you'll be seeing those in this presentation as well.

With the SEFIS group, one of their main components, after the trapping is done, is they will -- They are processing the videos and analyzing the videos that we have, and so this comes in very useful for some species that don't work well with the trap, and we'll catch some of the larger grouper species, and we'll see them occasionally, but not as frequently as they're seen in the video, and so this gives us an idea and some corroboration, sometimes, with the information that we have. All of this data eventually goes into one combined database, and so we're all using this together, and it's all housed in one location, so we don't have to worry about inconsistencies between the groups.

Now I will get into the summary of what we did in 2018, and there was a total of 117 days for at-sea fishing, 2,200 gear deployments, with almost 1,800 of those being the chevron trap video traps, seventy-seven short bottom longlines, and then we're also taking CTD deployments, which stands for conductivity, temperature, and depth, and so it basically is just giving some idea of salinity, temperature, and depth. We've also got some other sensors on there, but those are the main ones that are being used, so we can get some idea of what the temperature is like at the bottom, where we're fishing, and seeing if that has any impact on the catch. We can look at what the water column looks like on the way down, and so we have a lot of data that we're collecting while we're out there.

As you can see, in 2018, we collected 47,000 fish of eighty-two different species, and 11,000 of those fish were kept for processing for life history, some of the things that I mentioned before, age and reproduction and some other things as well.

This is just a rundown of some of the most encountered species that we have. There are two different colors on here. The blue ones are more forage fish species that aren't really commercially or recreationally important species that we're catching, but they are there in number, and so we wanted to show them as well, and then the species listed in the black are more probably -- These are the priority species that we're taking those life history information from. You can see, and I'm sure you are well aware, but red snapper has been moving up the list quite a bit for us, as it's the sixth-most abundant species that we've caught in our chevron traps.

Now I want to give you an overview of kind of what we're doing in trying to get these indices of abundance, the catch per unit effort, and so we're utilizing the entire time series that we have of these gear deployments. In the chevron traps case, it's from 1990 to 2018, and the short bottom longline from 1996 to 2018.

It then goes through a standardization process called a zero-inflated negative binomial model, and don't worry about that, but what it's there for is to try to standardize things over years and within a year, and so say water temperatures are colder one year, and that may cause a reduction in catch of certain species, and we can account for that using these models, where it will inflate or deflate the numbers based on how that variable affects it, and so looking at latitude that we're catching these fish or depth or temperature or all things that go into this model, and so we're trying to make it as consistent from year to year, and so, even if the sampling is slightly different, or if the conditions are slightly different, we can still make a direct comparison between years.

Then these are summarized in our annual trends report, and what we're really going to be looking is just kind of a relative movement or relative numbers from year-to-year, and so the relative abundance is what we're looking for, and it's not so much specific numbers that we're giving, but we're going to see if the population trends looks like it's increasing or it's decreasing.

Throughout this summary overview, I just want to make it clear that this isn't an update of stock status. This is just one thing that goes into a stock assessment, and it's the thing that's utilized and is very important in stock assessments, but there are a lot of other factors that go into it. Also, it's not treated -- This report isn't treated quite the same way in the stock assessments. Because we have to produce this for twenty-six or so species every year to produce this report, it's very difficult, if not impossible, to try to completely tailor it for every species, because there may be some little differences between them, and so we've stuck with some process that is kind of middle-of-the-road for all the species, and so it gives us a general idea of what's happening here.

It hasn't helped, in that not all the species that we're looking at have been assessed or updated, and so we can't really even use the SEDAR process, stock assessment process, because it hasn't been used yet, and so we're just making some broad generalizations when we're doing the analysis with this data.

Let me kind of orient you to what we're going to be looking at, and you're going to be seeing a lot of these. This is going to be the meat-and-potatoes of this talk. The black line is that standardized index of abundance, and it's normalized to the long-term average, and so what that means is you see that dotted line at the one, and it's going across, and that just means that that's the long-term average over that dataset, and so, if we see that black line is above that dotted line, that means it's above the long-term average. If it's below it, it's below the long-term average.

Those red dots are the actual numbers before we went through the standardization process, and those gray bars around the sides of it are the error, and so it's a 95 percent confidence interval, and so, while that black line is what is being reported, there still is that error on either side of it that's taken into account here.

Then another component that we have in here is we're looking at those CPUE, in terms of how it is spatially, and so, in each species that we're going to look at, we're going to have two of these maps. We're going to have one that is an earlier time series, from 1997 to 2001, and the colors represent -- The warmer colors, so like the red, represents high catches, and the green represents low, and blue is absent, and so keeping in mind -- You saw the coverage that we have for our universe, and so it's fairly broad, but some of these maps are going to be dependent on where we're actually sampling and not necessarily where the fish are. We try to have a good idea for that, but sometimes you're going to see that it's not completely reliable. Let's get into some of the numbers now. Please stop me if you want to see anything or ask some questions as we're going through this.

MR. HULL: Thank you for that point. I do have one question on the last slide, the figure maps, right before this one. In the time series on the left, from 1997 to 2001, you kind of have a heat indices of catch, and so the red are hotter, and then, in this other graph, you have from the time period 2014 through 2018, and what -- Was there more sampling locations, possibly, in the later time period, also? I guess that's my question.

DR. BUBLEY: That is exactly right, and so you'll see, with the ones from the earlier time periods, they're going to tend to be a little more clumped and not quite as high resolution, because we weren't sampling nearly as much, and so these -- Obviously, we're only taking point estimates of these things, and so we have to do a little interpolation to get it to be not just a bunch of dots on here, so you can actually see it, and so the smoothing process with more points is you're going to have higher resolution, and so, these more recent ones, you will see more detail, but they will still show the general idea of what's going, and that's some of the stuff that I'll point out, is, in some areas where you'll see it's only in the northern part of the range, or only in the southern, or only shallow or only deep, and that's still going to show up, regardless. Even though we've got fewer samples in that earlier time series, we still have enough that will it will show up and show what we need to.

MR. MCKINLEY: The chevron video traps, are the fish only counted that actually go into the trap, because you observe a whole bunch of them with those cameras, but, in these numbers that we're getting ready to get into, is it ones that are observed or just the ones that went into the trap?

DR. BUBLEY: With this one, it's just going to be the fish that were brought up to the surface that we worked up.

MR. MCKINLEY: Even though you had them on the camera and stuff?

DR. BUBLEY: Right, and that takes a little longer to process, and Todd would be able to fill you in a little bit more with that, but, when we bring the fish up to the surface, we have the fish, and we take a measurement, and we have numbers, and we can do something with it immediately. With the videos, they have to bring the videos back, and they have to have someone sit in a dark room and make counts, and they have a specific way that they're looking at the fish and counting the fish, so they get it standardized, but it takes quite a while to go through that whole process, and so it's tougher for them to do this on an annual basis, like us, because of that.

DR. KELLISON: Just following up on Wally's multiple points, there are essentially two data streams, and so the counts get generated from the traps, and then counts get generated from the videos separately, and so you could generate an index of abundance separately for both of those, but I think -- I am typically not directly involved in the assessments, but many in this room are, and I think what has typically happened in recent years, since the video data have been available also, is that those two separate data sources have been incorporated together into a single -- To generate a single index for use in the various stock assessments.

DR. BUBLEY: Right, and that's how this is different, is that this is just the annual report that we're putting out to give some updates, but, yes, during assessments, as I mentioned, they are treated differently, and so, during the assessments, we're using a combination of the two, because they are from the same location at the same time.

MR. LORENZ: Just a question on the -- It was slide before here, with the figures and those index graphs, and I will look at the past eight years or so, and that looks like kind of a nice cluster going out year to year, and so, I mean, I am drawing a conclusion that fisheries management is working kind of okay, to keep that fairly steady, and I just wondered whether you would agree with that or what, and I'm looking at the large variations that you had in other times, and we're tightening up a little.

DR. BUBLEY: Yes, and it's been that way. Before SEFIS came onboard with us, we probably -- The high end of numbers of traps that we would put in the water were around 500 to 600. With SEFIS, because of the increased sea time that we have available, now we're averaging around 1,500 traps. Last year, we actually put, I believe, almost 1,800 traps, which is the most we've ever put in the water during that time period, and so, I mean, that's a lot of data that we're getting, and that helps to ease some of the uncertainty that is surrounding those, because we have -- It's not making as many assumptions when we're looking at it, because we have more data points.

MR. GOMEZ: I am just curious why we -- Or maybe I don't know, but I didn't see anything for south Florida. Have there not been any tests in the last couple of years there? If not, will there be in the near future?

DR. BUBLEY: This is the region that we've always worked with, and this is the region that we've been funded with, to cover that area, and I don't know -- I don't have a really good answer for you, because that's way above my paygrade, and that's a different group that's dealing with it, and we are focused on -- Our task is to survey that region. What happens outside of the region isn't really of our say, considering that we are -- We are federally funded, but we are still employees of the State of South Carolina.

MR. GOMEZ: We're about to enter a situation with the National Marine Sanctuary, and this would probably be beneficial, but anyway.

MR. COX: A couple of quick questions. Are you guys noting any surface temperatures with your sampling through the years, and, if you will go back to the previous chart, I was going to ask you a question on that, on your time series, where you were -- Are you missing a few years there? You've got 1997 through 2001, and then you jump to 2014 through 2018.

DR. BUBLEY: It's just a way of showing early versus late. We have data throughout the entire time, but it's just one way to show some change over time, because it would just be a gradual thing, and so, if we have the time right next to it, the time series right next to it, it might not show much of a change, but, if we have the extremes of it, if there is some change, it may show up better there. We are recording throughout the water column, and so from the bottom all the way to the surface, and we have water temperature and data for essentially every trap that we throw in the water.

DR. REICHERT: To address that Florida sampling issue, besides the logistical, the distance that would need to be traveled, Florida also is a little unique, in the fact that the shelf edge is relatively narrow, and you have the coral reef, and so, if we would deploy traps on those coral reefs, there is a high possibility that we would destroy or damage the habitat, and so that's another reason why we are not extending the chevron trap survey into the Florida Keys, and there is other surveys that survey the species abundance in the Florida Keys, and so that was another reason why we generally don't sample that area.

MR. PASKIEWICZ: To address that particular viewpoint, commercial fishermen have been fishing alongside of the reefs for as long as I can remember, with very low-tech equipment and very high-tech equipment, and they seem to find a way to keep their wooden traps off the hard bottom, and I feel like that's an excuse that's not really viable and that we could be putting these traps, and we could have this data. This here, on the surface, is the best science that I've ever seen,

for me, and I'm forty years old, and I have never been presented with this type of evidence, and this is wonderful, and I would like to see it in my area.

DR. KELLISON: I mean, it would be, I guess, feasible to run a trap survey and, as you're saying, try to avoid the hard bottom in the Keys, the live bottom in the Keys. It would be a different survey than this, because it does target hard bottom, and so we try to put the traps on the bottom, and so there would be some differences in interpretation, because, presumably, that would affect what you catch, but it would be doable, but there is also -- Marcel mentioned other data sources in the Keys, and so I think the longest time series of what we would call a fishery-independent survey in the Keys is the diver survey, which is mostly Miami out to west of Key West, and some years out into the Tortugas, and, in more recent years, in some years, up to maybe West Palm Beach, but that's limited to like probably 130, but really 100 and less, and so there's some limitations there.

MR. PASKIEWICZ: The point being is the scientific process. This gentleman here has given us a very, very solid presentation to this point, and a diver survey is just that. It's a survey among people that are participating in a natural resource, and maybe taking, and maybe not taking, but this is following a real scientific approach, and it's consistent over twenty-eight years, and is that what I'm seeing, for the most part? This is really viable research for fisheries management, for what we aim to do here, and I would like to see more of this, and I would like to see more funds spent to generate these types of results.

DR. KELLISON: The survey I was referring to is not the -- It's not a volunteer survey, and so there's a multi-decade survey, and the methods have changed a little bit over time, and the spatial distribution has changed a little bit over time, but it's NOAA Fisheries, the University of Miami, and the State of Florida have been collaborating on it for some years, and so they do use a standardized methodology to survey reef fishes is the Keys, and, again, I think, in recent years, it's every other year in the Tortugas. May I make one other point?

MR. HULL: Of course.

DR. KELLISON: Captain Jack asked about water temperatures in recent years, and I think, the last couple of decades, both surface temperatures, and I'm talking about at a regional scale, and so -- Well, maybe it's Hatteras to south of Canaveral, both surface water temperatures and bottom water temperatures have remained relatively stable over the last couple of decades, but maybe over the last four or five years, it looks in both of those time series, there's a little bit of an uptick.

MR. HUDSON: Wally, can you back up to the short bottom longline, and you had a picture with stuff on the bottom, and it had to do with your hook size, which it appeared to be a 12/0 circle hook, I assume non-offset?

DR. BUBLEY: Non-offset.

MR. HUDSON: Of course, you're the ones with MARMAP that would be able to come down to say 30 degrees North latitude, off of St. Augustine and to the southeast, right where the expanded Oculina ends, and you're in the first five miles of the rolldown, we call it, between 220 and 300 foot of water. Then it ranges for another fifteen miles just to the north of that, but it's not going to be high relief. It's going to be fairly low relief, but it's solid with snowy and blueline and pink porgies, or red porgies, nice-sized ones, and, I mean, those sizes, like you got, you'll see that whole

array. You will get the bigger ones still that are going to be busting twenty pounds and stuff on the offshore side, the 280 and 300 and stuff like that, but you can get into as light as 200 or 220 and see the little chocolites, I would call them, they're so small.

Again, it would take MARMAP getting down there, and, since you all resumed that, have you all gone down there and, as an added feature from me, having fished that so much during the 1980s, I used offset, and I found that if I went to a little bigger hook than the 12/0, simply like a 14/0 or something like that, because it was a better production for snowy, and I wasn't targeting blueline tile, but I figure you probably have better catchability with a 12/0.

DR. BUBLEY: Yes, and, with some of these surveys, we actually -- We have actually recently received funding to expand our efforts with short bottom longlines, and so, in coming years, we'll make an effort to go down to Florida and do a little bit more fishing there. Part of the reason for some of this gear, the gear choices, are that it would be fantastic if we could have a survey for every single species and identify the perfect gear type to catch that species and just fish for that species, but, obviously, with limited funding and time and resources, we try to pick something that's kind of the road, where we can catch a little of everything, so we can get the most bang for our buck by doing it that way.

MR. HUDSON: Now, I noticed that you had like seventy-something deployments, forty-four caught on the shoreline, and that's forty-four snowy, and is that about a normal production for that type of deployments for your MARMAP, historically?

DR. BUBLEY: It depends. In terms of the number of deployments with short bottom longline, we've gone anywhere from very low, to almost nothing in a year, up to 150 or so deployments, but the hope is, with this new funding, we'll actually get to bump that up even more and identify -- Not only put more short bottom longlines in the water, but also cover a larger range and area that we can try to expand our universe, so we can potentially look at more than off of just the coast of South Carolina and North Carolina, like we traditionally do.

MR. BONURA: I just had a comment to add to James's comment over there, that there's plenty of traps being fished down in the Keys. There is approximately 450,000 trap tags for crawfish alone, and I believe that almost 95 percent of those are in the Keys, and is that correct, James? So I would say that the trapping in the Keys would not be a problem at all.

DR. BUBLEY: Keeping in mind these are larger than those traps. I mean, the dimensions of this trap are probably about six feet in length, and maybe two feet high, and probably about five feet in width.

MR. MOSS: Sorry to pile onto you from all the south Florida guys, but I think what a few of these guys are saying is there's plenty of areas where you can even drop traps, like even in the south area, not quite as far down in the Keys, but, I mean, it's like a hard reef line. You could drop traps right next to it and not go near the coral, really, not touch anything, not damage anything, and I think what I guess the four of us are kind of speaking to is, oftentimes, and not that I am proposing to separate south Florida into a different council yet, but we often feel like a red-headed stepchild, kind of, with a lot of things, because it gets to be so data poor.

I understand it. I mean, regionally, there's just a lot more mileage to cover as you get north of let's say Fort Pierce, but, again, it just kind of speaks to how we, a lot of times, are raising our hands and are not represented. Even in the species structure that you have here, there is only a few of those that we really encounter in any kind of regularity down south, and so it's not your fault, and I get it, but I guess we're all just kind of trying to wave the flag and say, hey, look at us, and let's get some data down there as well, but this is awesome stuff. Thank you.

DR. BUBLEY: All right, and I will go back through all of this again. Now we'll actually get into the species in particular, and so you get a chance to see these. I will just kind of go through them. If you want me to slow down or stop with some of these, but it's all going to be the same. It's going to have this index, and then it's going to show an early map and then a late map, and so you get some ideas of what the general trends that we're seeing are.

Here is gray triggerfish, and you can see it's been right around the long-term mean for the last five or six years. You can see the early distribution and the late distribution, and, while there is some changes, you're not seeing anything drastic between these two time points. Tomtate is the most frequently-caught fish species in our survey the last few years, and it's, obviously, a very important prey species for some of these more-priority species. Again, you get higher resolution on the later ones, but it's not showing too much of a change.

White grunt, we've seen a general increase since about 2010 or so, and this is one of the species that has a disjunct population, and so you can see that most of the fish are in the northern portion of this sample, and then they stay in that same general area, and I understand that they are in the Caribbean and south Florida, but, since we don't extend that far, we're not typically seeing them in the southern portion of our catches.

This is red snapper. Obviously, you can see that, the last few years, there has been a bit of an uptick here, and it has continued up in that direction since about 2009 or so. If you look at the distribution map, this will kind of give you an idea of what we're dealing with too, and, if you go back between the two, these red points in the old map kind of line up with some of the red points in the new ones, and so it's not like the distribution has changed, in terms of the hot spots, but it's just that there is more of them, and you can see the numbers here of the average CPUE from 1997 to 2001, where it's 0.6 fish per trap, and so one in every twenty trap or so is catching a red snapper, and now it's 0.8 over that time period, and so we're getting close to catching one red snapper, and, last year, I think we were at about one snapper per trap that we caught, and so I think it was about 1,800 or 1,900 fish that we caught in almost 1,800 traps that we deployed last year.

Vermilion snapper, you can see it's right around the long-term mean. Black sea bass has shown a different trend after this peak in 2011, and we've seen a general decline, and then it has stayed down there since about 2013. Distribution though is similar from that previous to the later time period, and you see that they are, obviously, predominantly shallower-water species.

MR. PASKIEWICZ: Will there be a hypothetical specific impact to support these numbers since 2015? I mean, is there anything that you suppose could be the issue?

DR. BUBLEY: This is speculation with some of this. we have looked at the age distribution, and it appears that there is a big year class that came through, and that year class is just slowly working

its way out of the population, and so it could be environmental that had some kind of impact on certain year classes and we're just not getting the recruitment that we got in years past.

MR. PASKIEWICZ: With that, what sort of timeframe would you expect, scientifically, for that? If it was an environmental problem, what kind of timeframe would you expect it to take to start seeing an uptick again?

DR. BUBLEY: They are fast-growing species that enter our traps probably within a year of being caught, and so, if this winter is a good spawn, we may see them in the end of our sampling next year, and so it doesn't take long with that species, because of how fast they are growing and how quickly they recruit to the traps that we're using.

Here is bank sea bass, another kind of forage fish that we catch, and we're seeing a decline in that. This is gag grouper, and it's tougher to tell, because we have a lot of variability in here, and it's below the long-term mean, but, once again this is another species that benefits from having the video cameras on the traps as well, because we will see gag, and scamp as well, but it's just they won't enter quite as frequently, keeping in mind though, with these traps, while they might not be the ideal catch for some of these species, we still do catch gag, and we still catch scamp, in these traps, and it's -- We're assuming, because we're fishing it the same way, that it's a consistent catch, and so, even if we're only catching one-tenth of what we would be catching with another gear, as long as it's consistently one-tenth -- Because these indices of abundance are relative, it would still tell us, from year to year, if we're getting -- If you catch 100 fish, and it's one-tenth, versus if we catch 200 fish and it's one-tenth, it still gives us an idea of how the population trends are going, assuming that it's fishing the same way every year.

MR. HULL: Wally, one question. I see the video there, and it's really nice to see the video, but are you able to -- With the camera or the video, are you able to measure the fish or derive anything else other than a count?

DR. BUBLEY: As of right now, no. Todd, I guess -- They have been working on the stereo cameras, and is that correct?

DR. KELLISON: This might sound a little broken-recordish, because, for a number of years, I have mentioned that it's something that we've been pursuing. Stereo video is when you use two cameras in combination, and it allows you to use some geometry to make inferences about the lengths of objects that are in the camera's field of view, and so, in lots of places in the world, stereo video is used, and it's used in the Gulf of Mexico video surveys, and they use those lengths in the stock assessments, for example, to estimate the selectivity of the gears, and we have not used it on the Atlantic side so far, operationally, because of the cost.

The units that they're using in the Gulf are tens of thousands of dollars, and they fish them very carefully, and they have lots of means to recover them, and ours are a little different. We fish in a lot of high-current and high-relief environments, and we lose gear, and so we have, thus far, opted not to put tens of thousands of dollars of cameras on the bottom, because we lose gear every year, but we have been, for a number of years, the last seven or eight years, been pursuing a less expensive stereo video camera.

I'm sure you're all aware, and you see it on the recreational side, the video camera technology has been advancing greatly, and cameras have become a lot less expensive, but they're really high quality, and so we now have -- Over the last couple of years, we've got a couple of models that are relatively inexpensive, and we've been testing them out, and we tested them out, I think, the first time at the end of the 2017 season, and then the SEFIS group, this past year, in 2018, for every set of trap deployments -- We typically, both of groups, deploy six traps at a time, typically, and so, in 2018, this year, every six traps that went out, one of those had a stereo video camera on it, from the SEFIS group, and so we got about 180 stereo video collections this year from a pretty wide distribution over the region, and it takes even a lot longer to read those than it does to read our regular videos, but those are being read now, and the first use of this data -- The intent of that is to try to make some inferences about species-specific selectivity of the traps for as many species as we can.

I think we're at a point now where we have the capability, and it's going to take us a little while to work up the data and then demonstrate the usefulness of that information, and, at that point, it will be -- There will have to be a discussion about whether we can fully implement that, because that will come with its own cost, which we don't have the resources for right now.

It doesn't cost a lot. Actually, because of the cost of the equipment that we have now, that's not a huge cost, but the big cost would be if we scaled up and were collecting stereo video at the same rate that we're collecting regular video. It would take a tremendous amount of personnel time to read all of that, and that's where the additional costs would come in, and so that's something that we're going to have to deal with, but we are getting there, and that was a very long answer, I think, to a very short question, but it's important for us to get there, and we are getting there.

MR. HULL: Thank you, Todd. As you said, there's a lot of information there. I think that, obviously, the most -- To get everything you can get while you're down there would be my point, and, if you can derive a length of these animals, then you can derive possibly an age, and that would certainly be helpful. The other thing we're -- Can you explain to me, Wally, the difference between MARMAP and SEFIS? Just clarify that for me, because I know they're -- I kind of think I know the difference, but maybe you could -- If I don't understand it, maybe somebody else doesn't.

DR. BUBLEY: MARMAP and SEFIS, at this point, are located in different labs. They are all federally funded, and they're essentially doing the same thing. We are just divvying up the amount of sampling, to make it more logistically feasible to get more done, and so they're fishing -- SEFIS is fishing the exact same way that MARMAP has fished since 1990, and SEFIS is just newer on the scene, but they have adopted the same techniques that we've been using since 1990, and so they're coming and fishing the same gear in the same way, as I said, in the same area, and they're sharing the same sampling universe, and we're selecting all the stations together, essentially, and then just divvying them up. Then the data is all being housed together, and it just happens to be that, after processing, the SEFIS group is dealing with the videos, and the MARMAP group is dealing with more of the life history components, like the otoliths and the reproductive tracts.

MR. HULL: All right. Thank you.

DR. BUBLEY: All right. Moving on, once again, distribution hasn't changed a lot, but we don't catch a lot of gag. Red grouper, once again, this is a fish that has a disjunct population, but we are

seeing the southern range of them as well. We have had these peaks in the 2000s or so, and then we've seen a general decline, and it's been consistently lower since 2014 or so, but it's been trending downward since 2006 or 2007, and, obviously, it's a lot more sparse. We have more samples, but we're catching less fish, and you can see the average CPUE from that early time series was 1.6 fish. In the late time series, it's 0.1, and so obviously a lot less fish that we're seeing.

Scamp, it's a similar kind of trend. Early on in the time series, we saw higher amounts of them, and then, in more recent years, we have shown a decline in the mid-2000s, and then it has stayed relatively low over that time period.

Snowy grouper, this is the short bottom longline, and so the maps are going to look slightly different, because it's just in the areas where we actually have our short bottom longline universe, and so, once again, keep in mind that, just because some of those areas in blue mean that they were absent of catch, it doesn't necessarily mean that we didn't see any there, but it just happens to be that we weren't fishing in those locations. Knobbed porgy --

MR. PASKIEWICZ: Just to add real quick, why wouldn't there be a color for areas that didn't get sampled?

DR. BUBLEY: It's all -- Because all of these are just point estimates, and so it's either a bunch of dots that are one color that are really difficult to see or what we had to do here is we just had to kind of smooth all of the data in between points that we had, and so you're making some assumptions that some areas that you sampled -- In between that area are similar to those two points, and so, if you had an area of high catch and an area of high catch, you're assuming that all that area in between is an area of high catch as well, or somewhere along those lines, and it's a simplified way of saying it, but then the same thing with an area of low catch and an area of low catch. You have to fill in all of that space, and so just the default is just absent is how it goes, because we don't have any other information on it.

MR. PASKIEWICZ: Okay. The explanation that goes with it is don't panic because we're saying that they were absent, but we're saying that we didn't necessarily fish there. I feel like there's a component there that you're telling us to don't feel bad because it's not there, but it's because we didn't fish there, and I don't know, and I feel like there's a little piece missing, is all.

DR. BUBLEY: It's tough to visualize some of this information in a way that completely ideally shows the show, and so this is just the means of us showing it that way. Here is knobbed porgy, and we've seen a general declining trend in knobbed porgy since the early 1990s. You can see most of our catch is in the northern portion of the sampling region.

Then here is red porgy, and we have seen a declining trend the last few years. Once again, this is showing the behavior of some of these fish. This one, apparently they don't like each other very much, it looks like. This is blueline tilefish with a short bottom longline, and you can see it's been around the long-term average the last couple of years, and you will notice, and this came up before, that short bottom longline, because we have less gear deployments, you will see that that gray area, the error range around it is wider, and that's just a factor of having less gear.

This is an update of the 2019 sampling that has been happening, and, obviously, remember that the stuff that I was all presenting was the 2018, and our 2019 sampling season just ended. We had

planned eleven to fourteen cruises, and we completed roughly 100 days at-sea. Actually, I guess this didn't get updated. This was from previous. We have completed basically -- What is planned there and what was completed is about the same. I think we had 100 or 101 days at-sea this year, the sampling season from April 29 through the very end of September was the last cruise that we ended up going on.

Obviously, we want to thank all of the crew involved. With this many days at-sea and this much workup that goes along, there is a lot of people that are there, and so all the crews from MARMAP and SEAMAP South Atlantic and SEFIS, the staff as well as we have graduate students that are working on projects that have helped us out, and we've had plenty of volunteers aboard, and, if anyone is every wanting to go onboard and see what we actually do, every year, we're taking volunteers to go along on five to ten-day trips. If you're interested, come and see me, and I can get you in touch with whoever you need to.

MR. BEARDSLEY: A question. I work pretty close with the Volusia County Port Authority off of Daytona Beach, and, probably in the past five years, we have done rubble and ships and different things, probably over 200 drops inshore of fifteen miles of our shoreline. Your graphs show, of course, red snapper skyrocketing, and sea bass, us catching it recreationally, has gone way down, and trigger and so forth, and I'm just wondering -- Can there be a correlation that we've brought that habitat in closer to the larger predators, being the snapper and the grouper, and that they are basically annihilating these other species?

DR. BUBLEY: I don't have all the answers on this, but we have -- One of the components that we look at is we will do some dive analysis, and so we'll take stomachs of fish that we have brought up, and we had one of our staff, and it was a student at the time, working on this, and, in all the red snapper stomachs he pulled, I think he may have seen one black sea bass in all of the stomachs that he pulled, and I think it was over a hundred stomachs that he was looking at, and so it's not to say that they're not eating them, or they're not eating them there, but it doesn't seem to -- They seem to be pretty opportunistic and, whatever is around them, they are eating it.

MR. COX: I have always got to bring this up, but are you guys seeing the abundance of sharks in your sampling that we're seeing?

DR. BUBLEY: With our chevron trap, it's not -- It would be more the video than anything that it's showing up, and we don't catch very many sharks in the trap. They occasionally will wedge themselves in there, but not very often. Our hook-and-line gear is what we typically see it on, but we're not deploying the hook-and-line gear nearly as much. It's kind of been hit or miss some years.

We also have a long bottom longline survey that's been on and off since about 1996 as well, and I remember, three or four years ago, we saw a lot of sharks, and they were following the fish up to the surface, and we were having a lot of bite-offs, but, the following year, I don't think we had -- That we saw nearly any sharks, and so it's just -- I don't think we deploy those gears enough to really get a good feel for what's happening.

MR. COX: Just to follow-up, I just have to note that, because we're seeing so much more of an increase in sharks, and that's what I was looking for, that you may -- I know you wouldn't catch

them in the traps, but you may see them following your gear up, because that's what we're seeing with our sea bass pots.

MR. HULL: Todd, did you have something about that question that Jack had?

DR. KELLISON: Jack, there is a survey, and I don't have the data, but I could probably grab it pretty quickly, that is run out of the NOAA Fisheries Lab in Pascagoula, and they do a longline survey in the Gulf and the South Atlantic. In the Gulf, it's focused on those sharks and a number of reef fish species, and they generate indices for red snapper and golden tilefish, and I think a couple of species of deepwater grouper, and they get utilized in stock assessments, and, for some reason, on the Atlantic side, there is almost no reef fish catch in it, but they do use the survey to generate indices of abundance for shark assessments, and so that's where I think we would look to answer your question, and so I'll see what I can find out.

MR. HULL: Thank you, Todd.

MR. MUNDEN: Going back to your presentation, toward the end of the first portion of it, you had a table of 2018 most encountered species, and do you have similar information for earlier years, in particularly 2014 up to 2017?

DR. BUBLEY: They are available, and I could pull them. It's not, obviously, right here, but we do have all the data from each year that we can query and get some kind of table like that, because that's just basically a query that we pulled from our database and made it look a little more visually appealing for people on a presentation, but we do have that data available, and I can --

MR. MUNDEN: The reason I ask that question is the advisory panel has been asked to provide information on a scamp fishery performance report, and I think that would be good information, to see, as far back as you have it even, as to what's going on with scamp, and you said the scamp numbers are down, but when did they fall, and maybe this will allow us to, somehow or another, get a feel for why the numbers are so low.

DR. BUBLEY: Right, and those are all available, and, in our trends report, we have a table that has the raw catch data, in terms of number of traps, number of fish caught, number of traps that had positive catches of the fish, and so we have that all the way back through 1990 for the chevron traps.

MR. PASKIEWICZ: What sort of impact have you been seeing from lionfish, if any, in the areas that you are sampling, and does that species play any role in maybe the decline of some of these other species?

DR. BUBLEY: We are seeing them, and this is mostly a video thing. They don't trap well, and that's not surprising. Otherwise, we would probably have more traps in the water trying to catch them, but we have been seeing more in the traps, and we've definitely been seeing them in the videos. As to any kind of impact that they might be having on the species, it's -- We really can't get a good number on that. I mean, it's difficult when we're -- What they would be preying on is stuff that we're not going to catch in the trap anyway. They're going to be small fish that are just going to swim right through the trap, and so we wouldn't see it until years past. We have had

some species that have declined, but it's tough to make a correlation between when the lionfish population has started to increase versus when those species have started to decrease.

MR. PASKIEWICZ: But is the question being asked on a regular basis of is there a correlation? It would seem to me, with our encounters with lionfish in the Keys, that, around those years, the population of lionfish absolutely exploded, and we did start catching them in our lobster traps and in our crab traps, and it's actually become a very viable, marketable species for us in south Florida, and so you have to wonder if that species is really coming into contact, when these black sea bass and scamp are in their smallest stage, and they are taking up on these rock structures, and are they disappearing because of the lionfish, and so I think that that question should be emphasized.

DR. BUBLEY: It's definitely something that people have attempted, or at least thought of looking at, but I think it's difficult, sometimes, to get your hands on that data, because trying to figure out how to get that information -- You're basically have to catch lionfish and look at the diets of the lionfish, and, because they are not recruiting to our gear, we don't really get much of a chance to do that. Also, what we're noticing, with our gear as well, is that we're getting a lot of lionfish in the deeper depths as well, and so deeper than what divers are really going to be wanting to do, and so trying to get our hands on those fish are going to be really difficult.

MR. PASKIEWICZ: Maybe I could put you in contact with some people that are experimenting with some traps that are working in the deeper waters, and maybe we could see if we can't catch some.

DR. KELLISON: I was just going to note that I think most of the literature on -- Most of the studies that have looked at lionfish diets show that they are pretty generalist predators, meaning they eat what they can that's around them that's small, and so I'm not aware of any indication of like specializing on particular species. Like I know, for example, vermilion snapper have been found in lionfish guts, but there's not any indication that they specialize on vermilion, and most of the indication is that they prey on species sort of based on the availability of what's around them.

I agree that, the more we know about their diet preferences and their impact on other species, the better we are. I mean, certainly it's a species that has a presence all throughout our region, at least in deeper waters all throughout our region. I think, as shallow waters, as you go farther north, they get limited by the cold winter waters, but, to Wally's point, the number that we collect in our traps every year is sufficiently small that our survey is not an effective way to get at those questions, but I do recognize what you're saying, that there are other means to collect those, and it should be an area of focus. Thank you.

MR. PASKIEWICZ: Thank you for the insight there, and, as a generalized blanket statement, as far as lionfish go, they are opportunistic feeders on the smallest of the fish on the reef, or on the hard bottom, whatever area that we're targeting, and, as these fish move into other areas, they are going to have impacts on those fish at their smallest stage, and so, I mean, I feel like we need to be looking at this, and, along with the push from Florida, along with the push from certain organizations that want these things, we need to be trying to eradicate them every step of the way, and it might help our fish stocks.

MR. HULL: From what I know, the trap fishery for lionfish is a long soak time with that gear. I believe, if your chevron trap was soaked for thirty days, it would probably have a lot of lionfish in it, I'm thinking, because it's more of a habitat thing for them, I do believe.

MS. MARHEFKA: I just want to thank you. This is wonderful. My life has been impacted in many ways, from very early on, through the MARMAP study, in what at the time I thought were bad ways, but I think we've done really good things, management-wise, based on the data that we've gotten, and I think it's incredibly important. Especially what I just realized is I'm not a big believer in that, right now, the way we're collecting commercial CPUE is really accurate, as the person who fills out the snapper grouper logbook. We do our best, and we certainly don't fudge anything, but I don't think it's as accurate.

Of course, commercially, for all of us, catch is restrained by the quotas, and so I don't know that that necessarily -- That we can get a trend from that. For me, your CPUE is the purest form of kind of what we're seeing, taking into effect that you know that trap isn't ideal for everything, but, like you said, it's standardized. The same trap ten years ago is in the same place now, and so I think this is very valuable, and I really appreciate what you all do.

I don't appreciate some of these trends that I'm seeing, and I'm a little scared, and I'm not going to lie. Looking at red grouper, that's no surprise, and scamp. Red porgy, my first experience sort of using -- With MARMAP data really driving some decisions we had to make, red porgy was the first one, and those numbers are below where they were then, and so I'm concerned about it, but I would rather know what we're dealing with than not know what we're dealing with, and so you guys keep up the good work. I think you're doing a really good job, and I'm excited to see that you're able to expand, and I hope the funding continues for you all, because I think this is really valuable, and so thank you.

DR. BUBLEY: This is just a snippet of the trends report that we have. We also have more data available, and some of the things, like with red porgy, and I would have to look back at it, but I seem to think that we're getting fewer fish, but they're bigger fish, and so it's basically just -- I don't have it right here, but we also showed size distributions going through there. Obviously, we're getting ages at some point, but that's a slower process, because we have to go through the whole thing as well.

MR. HULL: That was a great comment, Kerry. I think that -- I know I do, and everybody else on the AP, I mean we love to see long-term data collection, and what you all are doing is great, and we full support it and hope that you get more and more funding and support to continue on and expand.

DR. BUBLEY: Thank you all for having me here, and, like I said, hopefully this will be an annual thing. We can produce this again next year and give you that kind of input, and, if there's something that you would like to see that maybe we have already in the report, but it's not in the presentation, we can try to produce that as well.

MR. COX: I think it was good, and I think you guys are doing a great job. The only thing that I would add to it is that I think that commercial fishermen are experts in their field, and you guys doing some cooperative work with these guys, in where you put your equipment and what you're looking for, would be very beneficial to all of us.

MR. HULL: Thank you, Jack, and I had that question too, and maybe I will just throw that out after Jack's comment on that. Have fishermen helped you in deciding locations where you're sampling?

DR. BUBLEY: Actually, a lot of our universe stations are from fishermen that we have received. That universe has changed, and we've added stations throughout the years, and, initially, a lot of them came from fishermen. Since those initial inputs, we've still gotten some from fishermen, but a lot of them have been just either trial and error on our part, where we happen to be driving over something that looks like it might be fishable, and we'll drop a trap down as a reconnaissance trap, and see if it's worthwhile, and we can use the video to see if there's habitat down there and see what the catch brings back.

If that's sufficient and meets the criteria that we want, we will add that to our sampling universe, and so we have had some cooperation with fishermen in getting that universe. Obviously, we're more than happy to have more points and more area to cover, but we're still technically covering about the same number of traps every year, and so it will be slightly different locations, but anything -- Any kind of information we can get, we're happy to accept, and we do have -- Not in terms of chevron trap, at least, but we are working with some cooperative studies with some fishermen for, currently, longlining, deepwater longlining. Right now, we're working with two vessels on kind of a pilot-type project that hopefully will expand.

MR. COX: Just one last thing, but that's very encouraging to hear, because we've got a lot of fishermen that are aging out, and I think they have a lot they want to give back to the newer fishermen, and a lot of the fishermen I talk to -- You know, there are certain places we catch scamp or mutton snapper or yellowtail that we don't encounter other species, and so it's important that you capture their knowledge before they're all gone.

DR. KELLISON: I was just going to say that there are a number of people in this room that -- I don't know if they would want to be recognized or not, and I was going to do that, but I don't know if they would be pleased if I did that or not, but there are a number of people in this room, and there are a lot of people throughout our region, that have assisted our broad group in helping us make the survey better, I think, over time, and so I would like to just a heartfelt thanks to all of you.

MR. HULL: If there's nothing further, thank you so much, Wally. That was really great. It was really, really good, and thank you. Is everybody okay to keep moving here? Okay. Let's do it. We're going to go to Number 3 on the agenda, which is the citizen science presentation, and Julia and Allie are going to present this to us, and so I will hand it over to them.

MS. BYRD: I think I know most of the people in the room, but, just in case, for those of you who I haven't had an opportunity to talk with yet, my name is Julia Byrd, and I'm the Citizen Science Program Manager, and this is Allie Iberle, and she is the Project Coordinator for the FISHstory project that we'll be sharing some information with you guys about today.

Before handing things over to Allie, I wanted to give a quick update on a few activities that have happened since your spring meeting and then talk a little bit about our second pilot project,

FISHstory, and then kind of turn things over to Allie to kind of do a demo and walk you through that project.

At your spring meeting, I talked a little bit about updating the citizen science research priorities, and we were trying to get volunteers from each of the APs to participate in this process by serving on our Citizen Science Projects Advisory Team, and so the research priorities, the current ones, are on the screen, and they are what really drive the projects that the program pursues, and so we really wanted to get input from fishermen on each of our APs to help us figure out kind of what projects we should be pursuing with citizen science, and Jimmy and Bob and Kerry were the representatives from the Snapper Grouper AP who volunteered to serve on this group.

We held our first webinar meeting last week, and these guys provided really awesome input. We walked through each of the priorities, and they basically gave us a reality check to let us figure out what types of projects may work with their kind of sampling activities, normal fishing activities, and they provided great input, and so these updated research priorities will be going through one more Citizen Science Committee, and then they're be presented to the council at their December meeting, for their review and consideration, but I just wanted to kind of thank these guys. They did a great job in providing input on this process.

The next thing I wanted to update you guys on is the first pilot project that we launched, SAFMC Scamp Release, and you guys have heard about this for a number of meetings, but we finally released the SAFMC Release app in late June, and, again, this project is to try to collect information on released scamp grouper, using a free mobile app that you can download on your phone, and I know of number of you guys in the room have signed up for the app, and so thank you very much, but we're still trying to recruit commercial, for-hire, and recreational fishermen, and so, if you guys know anyone who encounters scamp or may be willing to send out information to the folks in your fishing community about this project, I would love to chat with you more.

I know, from talking to the fishermen who have signed up, that, although people are encountering scamp, they are not releasing a lot of scamp this time of year, because they're not seeing small fish, and so I'm guessing that may change some once the season closes, and, if people encounter them then, there will perhaps be more releases, but there's an upcoming scamp stock assessment, and the data workshop is in March of next year, and so we want to try to collect as much information as we can prior to that data workshop, and so we're really excited to have this kind of launched, and we're really thankful.

I know a lot of you guys have actually helped connect me with other fishermen as well, and so, if anyone is willing to kind of learn a little bit more about the project or share information about the project with fishermen, or may be willing to connect me to fishermen, I would love to chat with you afterwards.

I guess one other thing I will mention on this project too is some of the guys that I've talked to that have signed up for the app have been interested in us trying to expand this to collect information on more species than just scamp grouper, and so we put in a proposal, a grant proposal, to try to kind of expand this to include more kind of grouper species, as a second step, and so we'll find out if we get that grant funding at the end of this month.

Then kind of the highlight of our presentation today is our second pilot project, which is called FISHstory, and I talked to you guys a little bit about this at your spring meeting, but, just as a quick reminder, this project is using kind of old, historic headboat photos to try to estimate historic kind of species compositions and length composition estimates, and so, as many of you guys are familiar, the kind of headboat logbook survey started in the early 1970s, and so we want to use these old, historic photos to kind of fill in this historic data gap back in the 1940s and 1950s and 1960s and early 1970s, before these kind of traditional kind of fishery-dependent surveys got underway.

First, I want to kind of give a shout-out to Rusty Hudson. For this pilot project, he provided all of the photos from his family's headboat fleet in the Daytona Beach area, and so he has provided and scanned over 1,300 photos, and it's included a lot of great kind of metadata, and he can tell us kind of who the captains of the vessels were and the dates of the trips and all of that kind of information that's really important to the analysis, and so he has done a lot of hard work, and he's been heavily involved in this project.

We're kind of looking at this project as kind of a two-pronged project. The first thing we're trying to do is to get kind of species compositions, and so what species were caught in that early time period, and we're doing this using kind of crowdsourcing, and so we've developed a program that you can get to on a website called Zooniverse to help members of the public be able to help us identify some of the photos, identify some of the fish in these photos, and then we're trying to get this expert validation team that will help validate what the citizen scientists are seeing, and so we want that validation team to have fishermen and scientists on it, and so, in a few minutes, I'll be asking to see if any folks may be interested in participating on that validation team.

We're doing kind of species composition information, and that's through this Zooniverse crowdsourcing platform, and so what this is is it's kind of a website online that allows you to kind of build a project, and so you can load pictures onto the website, and you can develop kind of tutorials and training, and so it will help kind of citizen scientists be able to analyze images.

This Zooniverse website is really incredible. There are all different kinds of projects on the website, from counting birds to counting zebras and other giraffes, crazy African creatures, through camera trap projects, and there is things counting stars, and, I mean, there's a really wide variety of projects, but it's really taking advantage of kind of the power of the people and using the public to help you analyze data. We will kind of walk you through -- We put together a test project, and I say we, but really Allie has done most of the hard work on putting together a test project in Zooniverse, and she'll walk you through that in a second for this project.

Kind of the second prong of the project is to look at length, to see if we can get length composition information from these photos, and so, to do this, we're using kind of a free software called ImageJ, and we're trying to develop a methodology to be able to get length measurements from some of the fish in the photos, and the idea is, on these kind of leaderboards in the back, they're made up of two-by-fours or two-by-sixes, and so we can kind of use those to scale and get estimates -- The idea is that we'll get estimates of the length of the fish, and so we may be able to look at things like change in max size over time, which can tell us a little bit about what's going on in the population, and so that's kind of a second-pronged approach. We'll be trying to develop that methodology, and then we're going to try to test it out on one species.

Since you all's spring meeting, we've been able to hire Allie, which really helped this program take off, and she's done a great job, and she's done a lot of work. You may recognize her, and she presented to you guys in the spring, and she just finished her master's degree, and she was doing her capstone under Chip, and so she presented to you guys in the spring, and now we were happy to steal her away for this project.

We also have formed a project design team, which is made up of fishermen and scientists and outreach specialists, and they are kind of helping us develop this project together and giving insight along the way, and so, as I said, we've really been focusing on kind of developing all the project and training materials in Zooniverse, and we need species identification experts for our validation team, and so what these -- If you are interested in being on the validation team, what that would mean is that you would get kind of an email with some of these old pictures, and we would be asking you to help identify the fish in the photos, to make sure that our citizen scientists are identifying the right fish.

I will leave it there for now, and I will turn things over to Allie, and she'll walk through the Zooniverse demonstration, and then we're going to circle back and see if anyone might be interested in serving on that validation team.

MS. IBERLE: All right, guys. I am going to jump right in. This is the kind of main page that you, as a user, are going to see when you enter the FISHstory project, and it will kind of give you that glimpse into what you're going to be doing, and you can kind of dive deeper from here. Zooniverse is structured where you can build tasks, which are called workflows, for your volunteers to participate in, and, because of the difficulty of identifying some of these species in the photos and the fact that we may not be dealing with fish identification experts, we've created two different workflows, and so we'll see those there, and I will show you more detail on those in a minute.

We will have some kind of dashboard specs, for when people are completing the project, and so these numbers will be changing as we go, and hopefully we'll get an interesting quote and some kind of acknowledgements and tertiary information here.

As the user decides to keep going with FISHstory, fingers crossed, more information is in the About page. On the About page, we have kind of an overview of our project, what we're trying to get, how the information that they're going to be helping provide in the data that they are collecting is important and why we need it, and then a little bit more about the photos, and so where are these photos coming from, and, again, Rusty, thank you so much for providing all of this information and giving the user a good idea of the history behind these photos and what they're looking at, and so some information from Moe in 1963, and then we're going to be introducing the to the people behind the photos.

Obviously, our first highlight is Rusty and how important and crucial he is to this project, and then we're going to go through three of our main captains and give the user some information on them, and we have some really nice bios on these people from a local newspaper, and so the language describing these people is coming from that time period, which is, in my opinion, very interesting. Then we have the vessels that they are affiliated with, and that continues for all of the captains.

Then, if we scroll back up, we have information on the teams, and this is kind of our information, and some of the people that are in the design team will be listed here, with some short bios, and then the results tab, and, obviously, right now, we don't have a ton of information on the results tab, but hopefully we'll be informing the user and stressing the importance of the data that they're going to be collecting and where we're going from here.

Then, as we dive deeper, Classify is where the user actually gathers the data, and so the first classification is what we call the marker species workflow, and we have identified four species, well, three species and a species group, that we would like to kind of have our users find, and they will click on the picture with that tool to identify a species.

I will show you the other workflow in just one minute, but we don't have the ability to kind of really go into detail on the descriptions and give photos for these species, and we have built that training material in in a different section, and I will show you that in just one moment. Then some other training material comes in the form of the tutorial, and so the tutorial will pop up as the user is placed into the Classify section, and that will walk them through kind of the directions and make sure that they can zoom-in on these pictures, because you need to. Then finding more help, and so we'll go into this field guide in just a minute, and so that tutorial will help them out.

This is the marker workflow, is what we have deemed it, and then the other workflow is species composition, and so this is a little bit more in-depth, and, for this, the user is given species options, and they will indicate if the species that are listed are in the photo, and so each option provides a graphic of the species and then examples of that species within the photoset, and so we've tried to include images that they are seeing and the quality that they are seeing it at, and so training them to view it as they are seeing it, instead of a high-def color photo, which wouldn't help them much here. Then, again, you have a tutorial for this workflow as well.

Then, because the volunteers may not be fishery experts, we provided them with practice workflows, and these exactly mirror the workflows where they will be collecting actual data. However, if kind of takes the stress off of making sure that you get everything right, because you can test and check your answers, and the way you check your answers is in the field guide, and so I'm going to dive into that now.

The field guide provides some information for people, again, who aren't fisheries experts, fin labeling and some of the terminology that I use in species descriptions, to kind of help people out, and some information on working with these black-and-white photos and telling the difference between similar species, such as grouper, and then snappers and giving them some examples of differences that we have found in the photos. Cobia and shark is another one. When you're looking at it in a black-and-white photo, they can look very similar when the cobia are placed belly down. There's some other things they might run into, like discoloration, and we have a section for marking as well.

Meet the marked species is providing a little bit more information to accompany that first workflow, and so giving them a description. If you're working in just that workflow, you have a description of an amberjack, and some reference photos as well, and that's done for all four of those species or species group, in that case, for the grouper.

Then we have the answers to the practice runs, so you can see what we have identified and kind of give you the answers, and there's a question about how many humans, and, as you can see, the picture here is the answers, and so you can figure out what I have identified in this photo to test yourself.

Then we have a section on -- Rusty helped us to determine what we were seeing in some of these pictures, and the users might be curious to know why the tail is clipped, or the neck, in some cases, and why this is done and why they are coming across it in the photos, and then, in this section, we haven't imported any information yet. Rusty and I just met the other day to kind of go over some more people behind the project, other important people.

Then, finally, there is a talk section, and this is where we're going to hopefully manage inquiries about the project, and we can make announcements, and people can ask us questions. Then there is a collections section, which users and us can go in and create collections of photos, and I made some examples, and sharks -- I'm sure that people would like to separate out photos with large sharks, and then, because we all love red snapper, I have made a collection of large red snapper, and so people have the freedom to kind of pull aside any photos that they find interesting. That is pretty much where we have gotten so far in FISHstory and what the volunteers will see.

MS. BYRD: The plan is -- In Zooniverse, you do a beta test, and so what you do -- When we think we're ready, we're going to send this to them, and they have some of their kind of gold-star volunteers kind of test it out and provide feedback to us. We're hoping that's going to happen in November, and then, once we kind of incorporate feedback that we receive back, we're hoping that we can launch this in early 2020, and so Allie has done a ton of great work, and the design team has done a ton of great work, and so we would love to hear any kind of feedback that you guys have on this, and then I also want to see if anyone may be interested or willing to serve on the validation team, and we really think it's important to have not just scientists helping validate what the citizen scientists are seeing in these photos, but to have fishermen help validate too, and so we would love any feedback, and, if there are any volunteers for the validation team, I would love to hear that, too.

MS. MARHEFKA: Nice job, Allie. It looks really, really great, and it's very well done. I don't know what you all expect, and I don't know enough -- I just learned about Zooniverse at our last meeting, and I wanted to -- I actually used that idea, and I have a teenager, and a lot of teenagers at local high schools now are required to do volunteer hours, and it's a great way to get them to do it, because they don't have to leave the house, and they're used to looking at their screens all the time.

I wanted to suggest, if it does become an issue, and I don't know how many projects are on there and how hard it is, once it's live on Zooniverse, to actually get eyes on it and get people to yours versus someone else's, but I wanted to suggest that, once it is, and, if you all find yourselves with not enough eyes on it doing it, one suggestion may be, and this may be a little premature, is going to -- Pretty much every single local high school here has this requirement and has, obviously, a science department, and those teachers -- You could go to five or six and speak to the biology teachers, and I guarantee you that you would get a set of -- Lots of young eyes on it, because it's a very easy project for those kids to do, and it's right up their alley.

MS. IBERLE: They have to identify fish to graduate.

MS. MARHEFKA: See. I'm all about that, and it also might -- It would serve a lot of things. These are kids here -- I know a bunch of these kids who actually do fish, and so they're coastal kids, and they have knowledge, and it's an easy way to get volunteer hours, and maybe you don't need help. Maybe, once it's on Zooniverse -- Okay. So that would be my -- I think that that could be a really interesting way, on many levels, to get eyes on it and kids involved in this kind of thing.

MS. IBERLE: Yes, and we've definitely wanted to have this be an application putting into the classroom. I feel like we need to be able to gauge the ability and how well we set it up in Zooniverse, because, if we're not getting favorable results, we want to make sure we re-work it so that we can take it into that application, but schools for sure, and I think that would be awesome, and so thank you for that suggestion.

MS. BYRD: I think it's a great idea, and, to give Allie another little shout-out, there is a South Carolina Marine Educators Association meeting this fall, and so she's going to present this there, and so hopefully that can help us start to make some of those connections with classrooms in the area.

MR. PASKIEWICZ: Along with -- To speak to what Kerry's ideas were, I think social media could play an important role here. Area-by-area, local historical fishing pages, and some already exist, and use this as funnels to your volunteers, and so not necessarily your data collection points need to be fish identifiers, but you can use them as a funnel to the ones that want to sit down and actually do the work, area-by-area, hotspot-by-hotspot, and really identify what the history was of fishing.

MR. LORENZ: I had one question, and maybe I missed it, but, over the course of a year, I go to a number of seafood restaurants and things, in backwater areas, from North Carolina through Florida, and I always get fascinated by the photographs that I trip over there, and I spend time on them, and a couple of them have been even in Myrtle Beach, and what's the avenue or the protocol to do that? Is this program going to be like someone like myself seeing it at a restaurant, and what would I do? Would I approach the people or take a picture, or would that be of any use, or are these going to be pictures that you're going to procure first to have us identify?

MS. BYRD: I will say that, right now, this is kind of a pilot project, and so we're hoping to see if this works, and so we're focusing on kind of Rusty's at first, and I want to give a shout-out to Captain Bobby, who brought me a lot of photos from his area when he was fishing, and so I think what's helpful really right now is, if you know people that have a bunch of these old photos, or you know areas where there are a bunch of these photos, and I know some people kind of gave us great ideas last time, and I know the Deidre talked about Miss Judy, is to kind of let us know.

Right now, we need to see how well the project works and then refine it so that it's working well, and then I think, if we can find additional funding, I think this project could grow, and we could maybe build in a way -- We had kind of put in for one proposal that we didn't get, but we thought it would be kind of cool to have a scan your photo night at the council meeting, where we would sit there with scanners, and people could come in with photos, and so there's no mechanism to do that now, but we hopefully, if this project is successful and we're able to find some more funding, would kind of hopefully move in a direction where people could provide more photos to us.

MR. HULL: I don't see anybody else right now. I would like to add to that, that I think that this project is extremely valuable and showing the history of our stocks before there was any official data collection and sampling going on, and this is your sample right here, and I have looked at a few of these and tried to identify a few fish that some people were having trouble looking at, and the photo quality is pretty key to some of them are difficult to identify, but it seems like the first part of the project that you're setting up here looks great, but it's to actually get it to where you have a tool that you can successfully identify the species, and then, from there, I suppose that you would want to take it on to figure a way to get a length measurement, would probably be the next thing after that, as you stated earlier?

MS. BYRD: Yes, and, for the length measurement, probably Allie and I will be doing that in-house first, to see if we can develop a method, and so we're not going to be using Zooniverse or crowdsourcing for that piece yet. We're trying to develop the methodology and see how it will work, but perhaps that's something we can look into for crowdsourcing in the future, once we get a methodology kind of nailed down.

MR. HULL: Thank you. Any other comments or questions on this?

MR. GOMEZ: For our area, I'm very good friends with Captain Bill Wickers in Key West, and he just has a treasure trove of old pictures, and so, if you want to reach out to me, I could put you with him, and I'm sure he would like to participate with some of Key West's history.

MR. HULL: One other thing would be a question that I would have, and so you were talking about volunteers would get a set amount of photos to work on, but, if this gets out to Zooniverse and you have a thousand people that are willing, just using a number, you're going to have a lot of people looking at the same pictures, right? Kind of like when they age, when they count, otoliths and stuff, they have different agers, and they can -- Like four of them said it was this, and one of them said it was that, and so we're going to go with the four and that type of deal?

MS. BYRD: That's exactly right, and so we want to use the kind of power of the crowd, and so we can have as many people as we want to look at the same photo, and, when we beta test, we'll try to figure out what that magical number is, but, that way, we won't have to validate every photo. If all of the volunteers are saying that they're seeing the same things in the photo, then perhaps that photo doesn't need to be validated, and so we're kind of trying to use the power of the crowd.

Before we finish this up, we are going to have to validate some photos, and I know you guys, many of you, are kind of species identification experts, and so, if any of you might be willing to serve on the validation team, and I don't think that it will be a ton of time, and we would be sending kind of emails out to you, to kind of look at pictures and help us identify kind of what you're seeing in the photos. We would have kind of a training webinar, to kind of teach you the methodologies we're using, but, if anyone is willing to do that, I would be all ears.

MR. GOMEZ: I just wanted to add here that there is a Facebook page called Florida Commercial Fishermen Pictures and Florida History, which is a really cool spot to look at, too.

MR. MOSS: Most of those do come with descriptions in the comment section. Maybe, your species-by-species experts, you could ask them to give a rough size estimate of that fish. I mean, most of the fish that people become really comfortable identifying, they can also estimate size,

even based on a picture, based on body type, approximately length and weight and all that, and so maybe you could ask for that, for those who feel comfortable doing it.

MS. IBERLE: That would be definitely something interesting, and that could kind of be combined with the length analysis that we're planning on doing outside of Zooniverse, and so thank you.

MR. LORENZ: Just so I'm clear, the validation phase that you are going to do, is that to test how accurate some of us would be? If I were to volunteer, does the validation include how accurate I would identify the species versus a baseline of experts?

MS. BYRD: We want the validation team folks to have some species identification expertise. However, some of these photos can be really challenging in black-and-white, and, if they're a little fuzzy, or depending on how the fish is flipped, and so what we would try to do is set up kind of training for species identification experts, to make sure all of our experts are identifying the same species in the same way.

Then what we'll do is, in -- We're still working on the kind of details of the validation process, but, when a validation is triggered and needs to be reviewed, we want to send it to two to three members of our validation team, so they can look over it and tell us what they see, and then we compare that to what the citizen scientists see, to see if we can to kind of a final answer for what's in the photo. Does that answer your question? Okay.

MR. HULL: Anybody else? That's great. Are you ready to gather volunteers now?

MS. IBERLE: Sure, if people are willing to do it.

MR. HULL: I am volunteering, and Bob Lorenz is volunteering. David Moss. James Paskiewicz.

MS. BYRD: Thank you, guys, so much. We'll be in touch, once we have kind of a validation process lined up and can get you guys more details, but we really appreciate you guys volunteering.

MR. HULL: Thank you. This is exciting. You guys are doing good stuff. I like this. We're going to take a break for ten minutes or something like that.

(Whereupon, a recess was taken.)

MR. HULL: Okay. That was good to have a break. We're going to work for another hour here, and the next agenda item is Number 4, Fisheries Performance Report on Scamp. The council tasked us to come up with this report, and so this is something that we have to do, and we have to do a good job of it, and so we're going to get started on this, and we may not finish it, but, tonight, you guys need to put your thoughts down, put your experience down, put your knowledge down, on scamp and how you have interacted with that fishery, on paper, so that we can get this done and we can come up with our deliverable to the council. Here's Myra to get started on this agenda item.

MS. BROUWER: Thank you, Jimmy. What I will do is walk you through all the background that we have, including management history, the usual information we provide for you all, the landings, economic information, life history, and then we'll go through the questions. I took a little bit

different approach, and I've put it all sort of on slides, so it's easier for you all to see the questions when we get there, and just to remind you that the reason that we're doing scamp at this meeting is to have information ready for the upcoming assessment that Julia mentioned is going to get underway this coming year, as well as to provide more information to the Citizen Science Program that she talked about, the scamp Release, and so, obviously, you're going to see that we don't have a lot of information on released scamp, and there is nothing there.

To get started, I have put together just a few slides to remind everybody of the management history for the species, and so, back in 1992 is when the first regulations went into place, and scamp was part of the aggregate grouper limit, which at the time was five, and there was a minimum size limit that was put in place for both sectors of twenty inches, which is currently the same one.

Then, in 2009, Amendment 16 put in place the annual shallow-water grouper closure, which goes from January through the end of April, and that is for both sectors. It reduced the aggregate grouper limit down to three fish, and then it put in a prohibition on the retention of shallow-water groupers when the gag commercial quota was reached, and Amendment 16 was pretty much targeted to ending overfishing of gag, and I believe vermilion as well, and so there were measures specifically to address that situation. Also, the captain and crew of for-hire vessels could not retain species in the three-grouper aggregate, and so all of that went into place in 2009.

Then, in 2012, the council started -- They put in a lot of the annual catch limits for all the species that were not undergoing overfishing, and so the commercial ACL was established for scamp at that time, and that was at, as you can see on the screen, 341,636 pounds. The other thing that amendment did was put in place sector allocations, and we've talked about that before and how those allocations were arrived at, and so, currently, those allocations haven't changed, and that's 65 percent and some change to the commercial sector and about 35 percent to the recreational sector.

Since then, those catch levels have been adjusted. In 2013, there was an adjustment that had to be done as a result of the MRIP revisions that took place at that time, and so the commercial ACL went down a little bit, and the recreational ACL went up a little bit, and the allocations stayed the same, and it was just an adjustment that had to be made to address, like I said, the revisions in the recreational estimates. Then, again, in 2013, there was an amendment that removed the prohibition on the retention of shallow-water grouper when the gag commercial quota was reached, and so that went away then.

In 2014, the restriction on the retention of aggregate species by captain and crew on for-hire trips went away, and that was through Amendment 27, and then I believe the latest one that's happened is in 2015. Amendment 29 did more adjustments to catch levels for species that were not assessed, and so there was another adjustment to the scamp ACL, and the council actually took a more precautionary approach there, and they put in a little bit more of a buffer between the ABC and the ACL for scamp, because they were concerned about the status of that species, and so that is currently the catch levels that are in place.

Next, just to recap and make sure that everybody understands the commercial regulations, and I will go over the recreational, and this is not an exhaustive list of everything that applies to scamp, but it's the basics. The minimum size, and there is currently no trip limit. There is a spawning season closure, as we've talked about, in January through April for all shallow-water groupers,

and that includes gag, black, red, scamp, the hinds, coney, graysby, yellowfin grouper, and yellowmouth grouper.

There is a requirement to use non-stainless-steel circle hooks when using hook-and-line gear with natural baits north of 28 degrees, and then you have your allowable gear, which, for some species, it's different, but, for scamp, it's just the regular hook-and-line and bandit and spearfishing. Currently, powerheads are not allowed in the EEZ off of South Carolina, and that's getting ready to change, as we talked about earlier.

For the recreational sector, again, the minimum size, and the bag limit is three within the aggregate, and you see what those species are there, and it includes the shallow and the deepwater groupers, golden tilefish, and blueline tilefish, and then, of course, within the aggregate, there is additional restrictions for like golden and snowy and some others. The same spawning season closure applies to the recreational sector, the same restrictions on circle hooks, and, obviously, the allowable gear is going to be a little bit different there.

Then this is sort of just a really broad overview of the landings, commercial and recreational, and so the commercial is in blue, and the recreational is in yellow, and so you can sort of see the trend there. There was this increase here, and this increase here, and a general decline on both sectors since about 2006/2007, and, of course, there's this guy over, this little spike, and so we'll talk about that in a little bit.

Then I just put that there to -- The question always comes up, when we do these FPRs, of like, well, how much of the ACL has been caught in recent years and that sort of thing, and, rather than give you that this year they caught that much and this year they caught that much, this is basically the average of what's been caught for each of the sectors since ACLs have been in place, and so, from 2012 until 2018, the commercial sector has, on average, caught 53 percent of their ACL, and the recreational sector has caught 36 percent of their ACL.

In addition to that general information, and hopefully this is going to work, we have this nifty little tool that Chip has spearheaded and others have contributed to make it what it is now, which is a really useful tool, and we have information on all the species that we have been doing fishery performance reports for, and each of the reports are available on this tab over here, and this is a work in progress, but you can see that, for you guys, we have a tab, and we have all the data for past reports over here.

For scamp, the first thing that comes up is the life history, and so you have the option of picking years from 2000 to 2017, and this little thing -- You can reduce the number of years, and this graph is not going to change, obviously, because it's just life history. These data are length at-age, and the maximum observed age for scamp is thirty years, and that was from a study from Harris et al. in 2002.

This is the information that is currently available, and so a fifteen-year-old fish is about thirty inches, and then it moves on up, and so you can sort of get an idea of the length-at-age relationship from what's been collected, and then we have the length-weight relationship, length in inches and weight in pounds, and then the maturity, and that's another thing that often comes up of, well, at what age or at what size do these fish mature, and so, for scamp, 100 percent maturity, female maturity, is at about twenty inches.

After life history, we come to the index of abundance data, and this is information from fishery-independent studies, what Wally presented to us this afternoon, and so you've got the average of standardized abundance by year, and so you can see the general trend in abundance there, which we already saw in Wally's presentation for this species, and it says here that this was used in the most recent stock assessment, but there hasn't been one for scamp. This is going to be the first stock assessment that is coming up.

Next, we can look at yearly landings, and this is for the commercial sector, and, again, you can toggle this, and you can look at a subset of years, and here it is from 2009 onward, and so I will just -- Overall, from 2000 through 2017, we see, again, this general decline since about 2007, and then the data are broken up by state, and so, on this graph here, Florida is in the coral color, and Georgia and South Carolina have been aggregated to protect confidentiality of data, and that's in the green, and North Carolina is in blue. Over time, you can see that South Carolina and Georgia, or probably mostly South Carolina, has had a big presence here in commercial landings of scamp. For some reason, we didn't have any data in 2017, and I don't know why that is, and here is the releases for scamp.

DR. COLLIER: It's not that there is no releases, but it hasn't gone through a SEDAR stock assessment process, and we get commercial releases through that process, and we also get headboat releases through that process, and so we don't present them until we get the full list of data.

MS. MARHEFKA: So you think that last year with no South Carolina and Georgia is just -- I mean, I can't imagine that more than three of us didn't land any.

DR. ERRIGO: I pulled the data, and it comes from the Southeast Fisheries Science Center dataset, and there were no recreational landings reported, and there were also no commercial landings reported for those areas.

MS. MARHEFKA: That's 2017, if I am reading that right. Between all of South Carolina and all of Georgia, not a commercial scamp landed?

DR. ERRIGO: That's what the dataset I have says. Now, there could be a mistake, and I don't know, but, according to the Southeast Fisheries Science Center dataset that I have been given, that is what it says.

MS. MARHEFKA: I generally get -- I mean, I think the bigger point -- I am not questioning the trend, and I think the trend clearly is showing that in many places it's downward, but I do think, since we're probably going to have to really look at this species closely, I think accuracy matters, in this case, and I don't think it's quite this dire, that no one -- That no commercial landings in South Carolina and Georgia in 2017 happened, and I will even go back, real quick, and check my own logbooks, but, wherever Chris is, I'm sure his boats caught some.

MS. BROUWER: One thing is we did pull these data together rather quickly, and we got direction from the council on the items that would be on your agenda for this meeting at their September meeting, and so part of the reason that we haven't been able to explore -- We did notice, the other day, and we talked about it, and one thing that we can do, and Mike I think offered to do it right

now, is to pull the data from ACCSP and compare, and, oftentimes, you see differences, and so it's possible that it's just a dataset sort of issue, but we'll look into it some more.

MS. MARHEFKA: Not to beat a dead horse or be alarmist, but, for me, that's the difference between let's do the assessment and see how it comes out and, holy crap, we need to have a more serious discussion about something. I mean, I think it's not good, but --

DR. ERRIGO: I wanted to clarify that there are commercial landings in the South Carolina and Georgia area, but they are extremely tiny, much tinier than any year previous, and so you can't really see them on that graphic, but they are there. I am going to double-check those landings against a different dataset, just to see what that dataset says, and see what I come up with.

MS. BROUWER: Continuing on with commercial, we also have it broken up by wave, and that's a terminology that applies more for the recreational data, but a monthly sort of -- This, again, is the entire range of time series for this dataset.

Then we have some economic data for the commercial sector, and here is ex-vessel value on the vertical axis by year, and so, again, you see a pretty steep decline here, especially in these later years, and this is all in 2017 dollars, and the values have been adjusted for inflation, and then we have the ex-vessel price, the adjusted ex-vessel price, for scamp, and I'm basically just parroting what I see on the screen for you, sort of narrating, but certainly John Hadley, I think, is here, and so, if you have any specific questions about the economic information, John is here to answer any questions you may have. Then some more economic information for the commercial sector, in terms of sales and dollars over here on the Y-axis by year, and then in terms of jobs.

MR. SEBASTIAN: Has there been a correlation between the actual active numbers of vessels commercially fishing for scamp, because I'm not seeing 2005, and I think back, and there were a lot more guys in our area who were doing bandit fishing and stuff like that, and then, when I think about it now, it's like 70 percent of those guys are gone, and so is there a correlation that shows anything along those ways?

MS. BROUWER: Well, those are the kinds of information that we're hoping to get more insight on from you all. I mean, when the stock assessment gets underway, there's going to be a lot more scrutiny of the various datasets, and, as you know, there are fishermen who participate in the assessment process, and so certainly any observations like that are going to be useful when the analysts get together and start kind of scrutinizing things in a little bit more detail.

Moving on to the recreational sector, we're going to go back over here to the yearly landings, and so this is what the recreational landings for scamp look like for the entire time series, and you see this rather steep decline. To remind you, the closure, the shallow-water grouper closure, happened here in 2009, and it's obvious that something happened here in 2014 that caused that data point there, and then, when you break it down by state, here is what that looks like, and, again, Florida is in the pink, Georgia and South Carolina are in the green, and North Carolina is in the blue, and so clearly 2014 here is interesting, and, as Chip said, we don't have information on the releases.

Then, broken down by wave for the recreational sector, this is what that looks like. Again, there's going to be some landings here prior to the closure. If you put this over here in 2009, it kind of just levels out, and I believe we don't have any economic data here for the recreational sector.

MR. MOSS: I just have a quick question for I guess my northern brethren. Is scamp like a targeted species up north recreationally, because, down by us, we kind of get them by chance every now and then, but it's not something that you go after, and I was just curious, further north, if you guys actually go for them.

MR. LORENZ: I could speak to this, because I wanted to say a few things a little later, but scamp, no, and I'm talking from where my little mosquito fleet goes out from Masonboro Inlet, which is Wrightsville Beach, or Carolina Beach Inlet, and it's a forty to fifty-mile run, and we don't make a grouper trip for scamp. We go for red grouper, and we'll make that trip for out there, and then the scamps come in maybe one out of every six fish, and I know, for South Carolina, Mark Brown, who was on the council before, who runs a charter boat and can do a heck of a lot better than I can at trying to catch these things, he pretty much mirrored that when he goes into the same water as us, at least in depth.

MR. MOSS: If we get them, it's usually a little bit deeper, certainly, than where we would get red grouper, and it's -- I mean, a one-to-six ratio would be very high for us. I don't think it's anywhere near that. It's very rare, anyway, that I get them, and I don't know about you guys down south. It's very rare, right?

MR. COX: To your point, we've got some places off of Morehead where the guys go target scamp, in the 600s, and Milton loves to go out there and catch them, and sometimes they can go out there and have a two-day trip, and they will have a thousand pounds, and those trips are rare, but they do occur every other year, but usually we don't see but about 100 pounds or 200 pounds a trip, in a three-day trip.

MR. FREEMAN: In preparation for this topic that we're on now, I talked to the charter captain that has bought essentially the business that I had, and he doesn't target the scamp, mainly because the area Jack is talking about is very rough bottom, and the guys nicknamed it the Graveyard, because you can go there and make tombstones out of your anchors if you try to anchor fish it. We don't normally anchor fish in the deep water for the snowy, and the commercial guys say they prefer fishing a little deeper, but they have kind of give up on trying to catch them, because they are mixed in with the snowy, and so somewhere between forty-two and a hundred fathoms is the general area that they're caught, but that area that Jack is talking about, for us, is 250 to 275, and it is treacherous bottom for trying to drift fish.

MR. LORENZ: I will go through a little of what those of us -- This is just a wonderful example of why if something like Amendment 46 wouldn't have a resource and a financial hold on it to proceed forward, because there would be so much better information, and so I come about from a group of guys like myself, and we're part of that unlicensed, undocumented armada of the mosquito fleet that Captain Bobby says you will find out on the weekends.

We are running twenty-four-foot to thirty-two-foot boats. To go fish for scamp, we have to go out, from where I go, from the Wrightsville Beach area, we need to go out forty to fifty miles, because we basically won't see them until the water is around 125 to 140 feet, and we'll stop fishing, and that's the only issue. We will stop fishing at 250 feet, because we're not going to use electric reels and that sort of a thing, and we don't like to use more than twenty-four or thirty-six ounces of weight, and so that's a limiting factor.

When you look at all the things that we go through in trying to get people to go out, go forty to fifty miles out, in craft that are that small -- Years like this, we get tremendous amounts of east winds and seas, and we don't often get a lot of opportunity, and then, in the end, we'll go and catch mostly in that area, and Dr. Bubley's graphs were beautiful.

They showed right there where we kind of go, and there is a spot for red grouper and all, and, I said, then in with it are the scamp. We're not targeting them, and, as was mentioned by Julia, the scamp are always a legal fish, where the red grouper are not. Gag might occasionally be mixed in there, but you can catch them in much shallower water than ninety to 125 foot, and so that's my experience, from kind of an unsophisticated group of boat-owning recreational fishermen, private.

MS. BROUWER: Then the last thing we have here to show you is the economic impact for the recreational sector, and so you can see here this bump here, and John Hadley was just telling me that this is being driven by a very high number of trips that took place in Florida at that time. I don't know why the bump, and so you have the same thing here, in terms of jobs and income, and this includes for-hire and private recreational.

Unless you have questions, or you want to go back to a certain graph, or just sort of digest this information some more, the next thing I have for you is the questions that we're going to get into to start building that report, and so I don't know, Jimmy, if you want me to go through the questions, so you kind of have an idea in the back of your head of the kind of information we want, and then we can get right into it in the morning, because I don't want to rush the discussion, and we only have like a half-an-hour before the meetings ends, and so I kind of was going to suggest that we talk about it and you get those questions kind of in the back of your head and then we hit the ground running in the morning.

MR. HULL: Yes, I agree with that, Myra. I think that this is great information for us, and we can use this in our thoughts and pinning down what we're going to do tonight as our homework, and so we need to get into the questions and take a look at them and see if there's any questions.

MS. BROUWER: Thank you, Jimmy. These are -- Like I said, I just basically put them on a slide, and they are similar to the questions we've had for you in the past, except this species has not been assessed, and so we wanted to make sure that you kind of took more of a birds-eye view also, in addition to drilling down in the more specific questions that we're going to look at here in a minute.

The first thing is, in general, have there been substantial changes in the scamp fishery, and, if so, when and what do you think caused the change, and so sort of a big-picture sort of thing, and then we have a series of questions about different things, catch levels over the past five years, and I think you're familiar with these, when and where are the fish available, has this changed, has the size of the fish changed, have there been effort shifts to or from scamp.

We added some more questions to this one, because, as we've talked about, we don't have much information, in terms of discards, in either sector, and so, in addition to just the general question of what do you see, we have added a few more specific questions about how often are scamp discarded during the open season and what are the reasons they are being discarded during the open season, how often are they discarded during the closed season, do you still encounter scamp as bycatch when fishing for other species, such as when you're fishing for vermilion or gray

triggerfish? How feasible is it for fishermen to avoid scamp and other shallow-water grouper during the closed season? Those would be really insightful questions to get into.

As far as social and economic influences for the commercial sector, has price and demand changed? The same thing for charter/headboat. Is there issues there with targeting? Are we targeting scamp or not? In terms of how the fishery -- How dependent communities are on the scamp fishery, and have changes in infrastructure affected fishing opportunities for this species, and how have fishermen and communities adapted to changes in that fishery?

Of course, the management measures, is there anything else that you all think the council should consider? Are the current fishing levels appropriate for each of the sectors? This is all stuff that, eventually, after the stock assessment is produced and we get recommendations, that's when more of the management is going to get fleshed out.

Then, in terms of environmental issues, or habitat or ecological, have there been any unique effects that you can think of for environmental conditions? Timing and length of the spawning season, you know, one of the reasons that the council extended that closure through May is because fishermen kept coming and say, hey, we're seeing red grouper spawning into May, and the council went and extended the season, and so it's important that we get that kind of feedback from you all.

Abundance, of course, we have seen the trends, and recruitment, and we're always interested in learning more about recruitment. Do you see small fish out there, and where do you see them, and do you see the large and small fish in the same locations or not? In addition, this is another question that is different, that hasn't been discussed before, and have there been any shifts in catch, either annually or seasonally, either inshore or offshore, or north or south? One of the things we're trying to do to respond to climate change is look at how species are moving and how their habitats are changing, how their ranges are changing.

Have there been any conditions that have affected how many days you have been able to fish for scamp or overall changes in catch depth or apparent bottom type that you fish on, and changes in the species that are caught with scamp over the years or seasonally? Then is there anything else, in addition to are the current monitoring efforts sufficiently monitoring the stock.

That's what we have for you. The fishery performance report, I don't get tired of saying how useful they are and how interesting it is to get information from fishermen and put that all together in a report, and so, if you get a chance to look at -- If you haven't read through some of the other ones that past APs have put together, as I showed you, that's all on that interactive app, and not just for snapper grouper, but we've -- Christina has put together, with the Mackerel Cobia AP, fishery performance reports for the coastal migratory species.

MR. HUDSON: Myra, can you back up to where you had the maturity picture there, or graph? Right there, that's female maturity, and you're at twenty-one inches total length, and that's how they measure it here, but the minimum size is a twenty-inch total length, and so, technically, it's not quite 100 percent at twenty-inch. That is one little subtle thing, but the other thing that I saw, and I thought I heard different, but it said something about they may live up to thirty years and a weight of thirty-six pounds whole weight, and has anybody encountered scamp bigger than thirty-six pounds whole weight?

MS. BROUWER: I don't know the answer to that, Rusty.

DR. COLLIER: When you are looking at the length-at-age plot, that is the average length at age, and so fish can potentially get much larger than that, and it doesn't necessarily mean that that's the maximum. That is the average maximum for a fish of that age.

MR. HUDSON: (Mr. Hudson's comment is not audible on the recording.)

DR. COLLIER: Yes.

MR. HULL: Any other questions at this moment? Is anybody catching any scamps? I think that's the thing you're going to -- Go ahead, Jack.

MR. COX: A little bit.

MR. HULL: A little bit, yes. Cameron, did you have something to say?

MR. SEBASTIAN: You know, I see them down there, and they're intermixed probably with the gray, and probably it's 60 percent scamp and 40 percent gray, and a lot of the -- They are right on the cusp size, and so eighteen to twenty-one or twenty-two inches, and so, from what I see underwater, and what I've seen over thirty years of diving out there, the numbers seem to be staying about the same, from what I personally see, and the sizes -- There is tons of small stuff out there, because I am waving off -- I am not taking shots on the smaller ones. I am taking shots on the bigger ones and the grays and stuff like that, and the smaller ones outnumber the bigger ones six to one in that twenty-inch -- That eighteen to twenty-inch size limit.

MR. HULL: What depth are you generally diving?

MR. SEBASTIAN: I am going in between -- Usually most of them are between ninety and 125, but it's on -- My experience is the scamps don't like the high structure. It's a much smaller structure, and so I find the most scamps and the most big scamps on like two-foot broke and cracked-up relief, and never any big stuff. It's always on the small, scattered-rock bottom. That's where the best productivity is for me in seeing them down there.

MR. HULL: That's good info.

MR. MCKINLEY: Scamp is a different fish. I mean, it's a hard fish to catch, and I've got a lot of stuff to say on all these questions, and I've already filled out a lot of them, but I just want to say that it is a different fish, and they don't seem to come -- They are suspended more in the water, higher, and they don't come down and attack the baits and stuff, and so you just -- You know, it's not like a red grouper, and it's not like a gag, and so it's not a fish, and Jack would know that, and it's just a not a fish that is ever targeted, and they hit.

Now, it may be different when you're bandit fishing in the deep water, but our traditional grouper fleet, which is devastated -- I mean, the red grouper are gone, and, on a three-day trip, we would come back with ten boxes of grouper, but it would be eight boxes, seven boxes, of reds, and it would be a box-and-a-half of gag, and maybe a box-and-a-half of scamp, but, if those things ever come in and fire up, you can catch a box or two on one stop, and it doesn't happen often, but they

just don't feed, or they're not as aggressive, or they're smarter, and I don't know what it is, but they just -- They are a lot harder fish to catch, and that's way different than these other grouper species.

MR. HULL: Thank you for that.

MR. SEBASTIAN: I would have to concur with Randy. I mean, I will go down and shoot fish while some of my guys are fishing on top, and I can lay there, ten feet from where all the hooks are, and the other fish are going crazy and stuff like that, and some grays are coming in, and the scamps are literally just sitting there watching the bait, and, of course, if they're not watching and paying attention, then they're done, but they're down there. They are definitely down there, and they might not be getting caught as much, but they're down there.

DR. COLLIER: The name for scamp actually came from them stealing your bait. It's in Latin and their scientific name, as well as their common name, because they are bait stealers, and they are difficult to catch.

MR. HULL: That's interesting. I have a question on the -- Is Wally still here? Okay. In the indices that is done with the chevron trap, on the graph, does that include the camera on the graph, or is that just caught fish in the trap? When we see those really low numbers, there might have been some seen by the camera, but it didn't go in the trap, and that's not being indicated on that, right?

DR. BUBLEY: Correct. That's just -- What I was presenting today was just the trap catches.

MR. HULL: Okay. Thank you.

DR. KELLISON: I should look at the date, and so video data only started region-wide for 2011, and so the time series is much shorter, but Joey Ballenger and Nate Bacheler, Joey here in Charleston and Nate up in Beaufort, published a paper last year, I think, just compiling all the fishery-independent survey data, and they show -- They overlay the time series from the trap data with the more recent years of the video data, and they match up. They overlay each other pretty well.

I can send that to -- That paper has a lot of interesting information, including changes in the lengths of fish that have been caught in the traps over time, and so that length -- That mean length over time has increased, and it's because, in more recent years, they are not catching the smaller fish, which doesn't mean that -- I understand what you're saying, that you are seeing some of those fish, but, at a regional scale, the number of small fish has decreased, which has caused the mean size in the survey in the increase, but I will send that Myra and she can distribute it, in case anyone is interested in seeing it. Thanks.

MR. HULL: Anybody else have questions? Well, I think we're going to end it today a little bit early, and that will give you time to go ahead and get back and get started on this right away, and we're going to jump right into this and keep going with the scamp fishery performance report, and so good job, everybody. Unless there's something else, Myra, 8:30 in the morning, right here, bright eyed and bushy tailed. Thanks a lot, guys and gals.

(Whereupon, the meeting recessed on October 9, 2019.)

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OCTOBER 10, 2019

WEDNESDAY MORNING SESSION

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The Snapper Grouper Advisory Panel of the South Atlantic Fishery Management Council reconvened in the Town & Country Inn, Charleston, South Carolina, October 10, 2019, and was called to order by Chairman Jimmy Hull.

MR. HULL: It's good to see you again. I hope you had a good night's rest. We're going to go right back into Agenda Item 4, the fishery performance report, and we got started, as you recall, yesterday, and we were asked to provide our comments to a questionnaire, and hopefully you were able to do that. If not, we'll address your comments this morning, and so I'm going to hand it over to Myra, and we'll get this going.

MS. BROUWER: Good morning. Thank you, Jimmy. The questionnaire, which is the same that is in these slides that we walked through yesterday, if it's convenient for you to fill it out and email it back to me, that's great. Mainly, it's just an outline to get you folks thinking about the kinds of information that we would like, and so, this morning, I would invite you to just -- We can go through the questions and sort of just everybody say their two-cents in, and I'm not going to take any notes. I am just going to rely on the recorded transcript, once that's put together, to piece together the report, and so feel free to just share.

We can go by the questions, again, from the beginning, and another thing that I was going to point out is we had a chance, Mike Errigo had a chance, to look into the commercial landings and what was going on there with those missing landings, and there are landings that are showing up on ACCSP, and we're not sure why the dataset from the Southeast Fisheries Science Center does not include those landings, but Mike is going to quickly put together that same graphic, and, when he's done with it, we can bring it back up and talk about it. Again, to begin with sort of a kind of broad view of what the fishery has been and whether you think there's been some substantial changes over time, and when do you think those changes took place.

MR. HULL: I think that it would be good, if you want to comment on this, that we should just raise our hands, and let's start like that. You may not have a comment on it, but, if you do, let's start that way around the room. The first question is have there been substantial changes in the scamp fishery? If so, when and what do you think caused the change? I think, obviously, this is a perspective from where you are at, whether you're in South Carolina or Georgia or Florida, because, obviously, there's a big difference there in how you interact with this species and have in the past and into the future. Rusty, do you have something to say about this?

MR. HUDSON: The only thing I would reference is those pictures, because, when you see the scamp that are there, versus what we don't have anymore, that's a big difference across thirty or

forty years, and, yet, I don't recall the ability to target scamp down our way, and it was gag. It was kind of like the red grouper. It was a happenstance grouper for off of Daytona.

MR. HULL: Yes, I would agree.

MR. MCKINLEY: I guess I thought I sort of had it figured out until I saw all the data that came in yesterday. That was a good presentation of the stuff, and I thought it maybe was just unique to North Carolina, but there's definitely not the fish that there used to be, and, going back to like ten or fifteen years ago, what we used to call the nursery area, down toward Frying Pan Tower -- I mean, you would be in that 100 or 110 foot of water, and you just threw back tons and tons of baby scamps and baby red grouper, and it's just not there anymore, and I thought maybe that the lionfish was a problem and destroyed all the red grouper, and so we are not really encountering scamp as much, because we're not in the area, and we're not grouper fishing. We've had to shift to b-liners and triggers for a big part of the year, but, seeing that it's gone down everywhere, it's a substantial problem.

Maybe it's sharks. I know, for us in Onslow Bay, the last ten years, hurricanes and stuff, and all the fresh water coming in, and I know that Florence really, really devastated some of our mid-range bottom and stuff, and inshore bottom, and so maybe that's the problem, but what I'm seeing here on this stuff presented is there's not a lot of recruitment, and so there is a definitely a serious problem, and I am extremely concerned, but our group was not the bandit boats. We've got a big fleet that we called ourselves grouper fishermen, because, when the red grouper disappeared, we've had to go into other things, and so there is a substantial change in the scamp fishery, and what's causing it, I don't know. I thought I had some ideas, but now I'm not sure.

I know the sharks are a problem, and I know that's a problem even -- I know, down in Florida, it's probably worse, but these things seem to -- The scamp and the red grouper like to live on these live-bottom areas, and there's not a lot of relief there, and so, if a big pack of sharks came in, they wouldn't have any place to go, and maybe that's what it is, and I don't know. Jack may have different ideas than I do about it, but I just don't know.

I know there is a lot more recreational fishing pressure. They are using the newer Daiwa electric reels with braided line, and so they're going out there and catching a lot of these fish, and then there's a big upswing in the recreational diving, and so there are all these different things that could impact it, and I'm concerned about all of them.

MR. HULL: Really, there's a big question-mark, and we're trying to figure out if it's environmental, if it's fishing pressure, is it a combination of everything. Jack, you were called out there. Are you ready to go?

MR. COX: It's kind of early to jump right into it, but I will just say what I think. I think that all groupers that I have seen in my career have seen some overfishing, and I think the grouper fishery is very susceptible to being overfished, and I think we're noticing that, and that's what we're discussing here. I think the council is going to have to be very proactive in rebuilding some of these groupers, like scamps.

What causes it, I think it comes from all of the pressure from both sides and the increase in the technology that folks have these days to go to the deeper water, through electronics or fishing gear,

but I am glad that we're discussing it, and I have definitely seen the change in my career, and I don't know what to say, but there's things that we're doing, like Amendment -- I think it's 36 or whatever, or 30, with red grouper rebuilding, and we're going to have to look at some things like that with some of our other grouper species.

MR. HULL: Thank you, Jack.

MR. MOSS: From south Florida, there's not much change. As they've said, it's kind of a bycatch fishery. I guess I shouldn't use the word "bycatch", but it's not necessarily a targeted fishery. I don't have the experience that Rusty does, but, in let's say fifteen or twenty years, it's about the same as it is overall.

The one thing I will throw out there, and it kind of goes along with what Jack has said already, is, down by us anyway, and some of the other south Florida guys can chime in, it's a little disappointing that we've had the shallow-water grouper closure for a few years now, and I haven't seen anyway, and this is kind of anecdotal, a major uptick in grouper catch or recruitment from that, whether it's blacks, reds, or scamp or whatever. I don't think that we've gotten the bang for the buck with that that we thought we would. I know, in the wintertime, we get a lot of small reds and stuff on the shallow reefs, but it hasn't paid off, I think, like we thought it would, unfortunately, as yet.

MR. HULL: Thank you, David. I agree. Randy, you represent a lot of recreational sport fishermen off the east coast of Florida there, and is there anything that you can add to this?

MR. BEARDSLEY: I would say that it's pretty much the same. We're not targeting them. We have had to go out to deeper water. The ones recently that we've been catching are large. I mean, they're breaking some of the records of our club from 1967, and so we're more going after gag, and we catch, like you said, maybe one in five or one in six are scamp, but they're coming in -- We don't seem to see juveniles very much at all, and I don't know if it's the inshore reefs, which we have quite a bit of structure, and we can't get through the red snapper to get to the grouper, and so that's been -- We have gone to 200 foot, and we're catching twenty-plus-pound scamps, in that range, but we don't catch small ones, for some reason.

MR. HULL: Thank you for that, and I agree, because I have fished out of the same inlet all my life, and, back when we used to run trips on a bandit boat, if we had 1,000 pounds of gags, we might have a box, or maybe two boxes, of scamp, if we were lucky, and that would be a great trip, and so it's always been -- They were always bigger fish, and so it's much the same, from my history to current, because you're talking this has all happened in the last year or so.

MR. SEBASTIAN: With the scamp fishery and the closures that we already have for grouper, and what I'm hearing and what my thoughts are on it is we need to be exceedingly, exceedingly careful, as we move forward, before we start putting out more shutdowns and more closures, because, for the headboat charter fishery, when our customers hear that a species has shut down or been reduced, then they just pretty much stop coming. I mean, if they can't go out -- Even if we only catch a couple, if we're catching our three grouper, and nobody ever catches three grouper anymore, but they had the appearance that they could catch it, and that, for the business aspect of what we do, is extremely important.

When we start talking about the scamp fishery and stuff like that, it looks like there's definitely an issue with it, but we really need to be careful that we're finding out what is the cause, and it may be multiple causes. Like I know, in our area, one -- We have one guy who would fish year-round for grouper and snapper, and he got cancer this year, and so the best guy in our area, who produced the most catches in grouper and scamp and stuff, is out of play, and that got me thinking. I was like, well, who are the old, good guys, and the old, good guys are aging out. They don't want to go get the shit beat out of them anymore, and so the guys with the best numbers, the best catches, the best ratios, are pretty much aging out of the game, and that might be a factor.

The other real commercial guys, they don't mess with it anymore, because all they want to do is go make sure they can go make their money fast on b-liners and come back to the dock and sell their trips and do whatever they do for a couple of days and straighten back up again and then go back out again, and so, you know, they have shifted from the grouper and snapper industry totally, and they just focus on the b-liners now, and it's quick, fast money that they can make a lick on and come back.

Then you throw in there -- As a diver, you throw in there if one hurricane comes through, and thirty days, forty-five days, after Hugo, the water on the bottom was still pitch black dark, like night, forty-five days after a storm, and so go through every single storm and see what the catch ratio is in there, and does that play a factor? I don't know. I mean, I'm not a scientist. I am just saying that any of these could have factors that impact on what we see as the scamp fishery. Me personally, thirty years, I see about the same mix as I did twenty years ago, thirty years ago, as I do now, and that's just what I'm seeing underwater.

MR. HULL: Thank you.

MS. MARHEFKA: My boat is running away from a lot of those spots, for the same reason. You're just having to fight through the snapper to get to the gag and the scamp, and so that might answer a lot of why he's seeing them and they are declining in the catch. It doesn't really answer why they're not trapping though in the chevron traps. Again, not that they're trapping fish, but, if you remember what Wally said, it's the -- If you were trapping ten, ten years ago, then ten should still be trapping, if the population has remained stable, and it's gone down quite a bit, and so it explains why it's not maybe showing up as much in the commercial catch, but I don't think it explains everything. I don't necessarily -- My gut, not that that matters so much, is not telling me it's as much fishing pressure as maybe some other environmental issues that we have yet to explain, and that's my two-cents, for what it's worth.

MS. JEFFCOAT: I am not saying that the red snapper has a lot to do with it, but, the areas that we would fish for these grouper, we are having to fight getting through the red snapper, and your bait is gone. We are rebuilding that stock, and so I'm sure that there is more and more hungry fish, as time goes by, with the red snapper, but, when we did do the red snapper days, one of our fish cleaners did find a juvenile scamp in the stomach of one, and so that could be part of it. I think it's a big picture, and I don't think any one thing is affecting it, but this could be part of it.

MR. HULL: Thank you for that.

MR. MUNDEN: What I found puzzling about this is -- I spoke with Wally afternoon, and he mentioned this during his presentation, but the gear hasn't changed that they are using for

sampling, and the chevron traps are the same that they've been using since the early 1990s, or earlier than that, and so their sampling has not changed, but yet we're seeing all of these declines in fish that are being landed, and so I just find that very puzzling.

MR. GOMEZ: For us in the charter industry in the lower Keys, they have really never been an issue. We hardly ever catch one in the low water, and, when we do catch one, it's 120 feet or deeper on a wreck or some rubble, but, when we do catch them, they are usually barely legal to non-legal, and so it's just not something we see a lot of in the lower Keys.

MR. LORENZ: I pretty much can reiterate, from the private boats in North Carolina, and let's say the last seventy miles of coastline, and so from maybe Topsail Inlet south, it's pretty much -- A lot of what's been said here, and as I had mentioned yesterday, these are not targeted by anybody. Nobody goes out and says let's go catch the scamp and they're biting. You rarely hear that. What you'll hear is, when the red grouper bite is good, let's go for that, and there was a decent bite, from what I hear.

For medical reasons, I couldn't fish during that time, and that was from June until about mid-July, and there was a fairly decent red grouper bite, and I had asked Julia if any scamp were reported at that time, because that's where we'll catch the scamp, because, for the groups like that I go out with, we get pretty excited when we see them. It's a good fish, and I think it's better tasting than the red grouper, but never -- Maybe Randy explained the reason, but I have never seen a small one or a juvenile. They are always a legal size. They will be up in the twenty-two to thirty-inch category.

They're out, and it's a heck of a trip for us, because they're out in 140 feet of water, and so that only starts no closer than about forty miles, and so 125 to maybe 200 feet of water, and we stop then, because we aren't fishing with electric reels. We don't consider that sportfishing. Interestingly, we don't see them -- We have not come across small ones inshore when fishing where the scamp would be, which would be much more shallower.

We don't fight red snapper out where we were fishing out there, and you will occasionally see them in closer, in ninety feet of water, and so that didn't seem to be an issue, but one of the issues we have, maybe with all snapper grouper species, even with sea bass up in my area, as I said, the last seventy miles of North Carolina, is it seems that, over the years, that any fish worth catching are further and further out, which can include the sea bass. To get decent-sized sea bass now, you're going out about eighteen miles for those, and so even those type of fish -- It just seems like, in the inshore fifteen miles, not much is available, no matter what.

MR. HULL: Thank you for that. That's good discussion so far on this, and we'll follow-up in one second with you, and it sounds like everybody has got the same impression, is we're catching some larger fish, and not like we used to, and we're not seeing the smaller fish, and so it's like a recruitment failure. Where are the recruits? Where are they coming from? That would be something that would be the big question, that it looks like we're not getting those recruits to get back into the stock, and so did you want to follow up? Go ahead.

MR. GOMEZ: Just a question for Cameron, since he does have eyes in the water. I mean, are you seeing more or less in your area, and large or smaller size?

MR. SEBASTIAN: Usually it's -- It's been pretty consistent, and it's a mix. I mean, when I go down to shoot, I will see a bunch in the fifteen to twenty range, and then, mixed in with those, you have always got a couple of mossbacks, and you've got some grays mixed in there, and so usually there's a pretty good mix, but the smaller ones, historically, from what I recall, are always outnumbering -- They're always outnumbering the bigger ones, at least seven to one.

MR. HULL: Cameron, you're fishing out of Myrtle Beach?

MR. SEBASTIAN: Yes, Little River, and so we're going anywhere up to the Frying Pan Shoals and down off of Georgetown, that sort of range there. Most of the scamp that I see are going to be the eighty-five to 125 foot range. The grays will come in closer, but the scamps always stay out in at least ninety feet or water, or a little bit more.

MR. HULL: Well, it sounds like you're seeing more than anybody else is, and so maybe you're in the hub of the fishery there, of the recruitment, and who knows.

MR. PASKIEWICZ: I am not sure if Wally touched on this yesterday, and I know that he did mention that temperatures had remained relatively stable over most of their data collection timeframe. Maybe, in the last four years, the temperature has gone up some overall, but I did not hear him say if salinity had changed over that timeframe, and, to what Bob has said, with the better fish being further and further offshore, maybe we do have water quality issues all the way up the coastline. Maybe we are pushing these fish further off, and maybe water quality is taking away some of those nursery habitats and not allowing them to reproduce and have a good stock base. I feel like we should be asking that question as far as up our zone goes, and is water quality an issue, and should we be testing for that, and should we really focus on that?

MR. HULL: Good point.

MR. FREEMAN: I don't remember ever catching a less than twenty-inch scamp. The places we would go to catch scamps, we, most of the time, chose not to go there, because the terrain is so rough that you lose so much gear, and, unless you just couldn't catch something else somewhere else, and they're there.

There's a wreck that I think the North Carolina state record came off of a couple of years back that is 160 feet, and that's as shallow as I ever remember catching one, and then the majority of them are a place that Jack mentioned yesterday, ten miles or so northeast of the Big Rock, from starting say forty fathoms and going on out to fifty fathoms, and it is very rough, rocky bottom, and those are -- I would say they're mid-range fish, twelve to twenty pounds, where that wreck that's back in 160 feet -- The ones you get there, if you can get it out of the wreck, and I actually had a diver go down, and it's a sunken steel barge, and the upper deck is rusted out, and the framework is there, and trying to get fish out of that is tough.

We've caught twenty-seven pound Americans, and it's just loaded up with amberjack, and occasionally a barracuda, and so whether that helps or not, but, those places, I feel like you could go there today and catch scamp, and usually because it was kind of a rare catch, and it's a pretty fish, a desirable fish to have in the bag, and then we would go there specifically to try to catch them, and I have noted it in my records where these fish are, that scamp is there and snowy is here or something else.

MR. HULL: Thank you for that. This is good conversation, and we're answering a lot of the questions in this discussion that are in this questionnaire. Before I go to you, Jack, could I ask -- Todd, could I ask you a question as to whether you know of any salinity studies, current ones, that show a change in salinity inshore, where possible these recruits are coming from that recruitment success could be affected by water quality, in the form of salinity? Also, is there any -- Has there been any studies or collection of possibility of location of the recruits and what depths for scamp and things like that?

DR. KELLISON: I am not aware of like an analysis, long-term analysis, of salinity, but I guess it probably gets measured in multiple ways, like from the trap survey, and the CTD would capture that, and so there is long-term data. I am going to guess that the offshore salinities have been quite stable over the last couple of decades. I can do some checking on that, and I would check with some oceanographers, and so I'll see what I can find out. I'm not sure -- To broadly affect salinity, at a regional scale, I think it would require a tremendous change in freshwater inputs.

MR. PASKIEWICZ: Maybe not limited specifically to salinity, but maybe nutrient levels and stuff like that. I mean, more along the lines of what I was thinking, and I did mention salinity because they said it was one of the things that they were testing on a regular basis with the traps.

DR. KELLISON: Right, and so good point, and so just questions broadly about whether any parameters of water quality could have changed, and so I'm not aware of any big changes over time and any, I guess, water quality characteristics, but I will maybe check around and ask a few questions. The second question was about scamp?

MR. HULL: Yes, and do you know of any studies -- Like, perhaps, I know with the State of Florida, we have run like, in particular, Z-traps and smaller-mesh trap studies to try to capture recruitment areas and find -- Off of South Carolina, it would be a state question, but are they doing anything like that? Is the agency doing anything like that to possibly find recruits and get some type of idea of where these recruits, a little bit bigger than young of the year, might be coming from? In my mind, it could be -- The hub of the fishery seems to be off of South Carolina, and the question is how is it being sustained? I mean, is it coming from somewhere else, or is it there? It's lots of questions, and I just didn't know if there was anything that you knew of, as far as do we have any ideas where the recruitment is originating from for the scamp stock.

DR. KELLISON: I might defer to Jack on this, but I am not aware of any studies that, I guess, effectively capture scamp, or maybe most other grouper recruitment patterns, and I'm not even sure that it's well described in the literature what the juvenile habitats are, the nursery habitats for these species are, and it's something that I have wondered about. I see relatively small ones on relatively deep reefs, and I have always assumed that they predominantly just recruit to the same types of habitat offshore, but I will go back and look, but, off the top of my head, I am not familiar with where it's been described in scientific journals, where someone has described the juvenile habitat for scamp.

MR. HULL: Thank you.

MR. COX: James said something that made me start thinking a little bit, when you were talking about water quality. Where I keep my boat is in a canal, and I'm probably about three or four

miles from the inlet, but we've got a pretty decent water flow, and I definitely have noticed the decrease in the water quality. I've been on that canal for twenty-five years, over at Moonlight Bay, and, in the fall of the year, I have set my pinfish traps to catch grouper, and I pull them every time I go out, and, this time of year, I normally catch -- Up until five years ago, I was always catching juvenile gags, little ones, like five or six or eight-inch fish.

It was always pretty cool, and it looked like something you would put in an aquarium, and, for the last five years, I have not caught any, and I've been scratching my head of why don't I catch these juvenile gags anymore, and I have never caught any small scamps like that, but something that we're not talking about that has happened in our area, and I don't know if it's happened in other areas, is our inlet has dramatically changed in the last five years.

Because of that, we've had constant dredge operations in the inlet, and, as you talk about water quality, it makes me think that something that's going on with all that dredging has not allowed those fish to come in that grassland and the areas where they usually come and do their spawning, and so I don't know if other areas are seeing increased dredging in their inlets, but we certainly have, and our inlet has changed like I have never seen in the last five years.

MR. GOMEZ: That water quality is a big issue, and I'm just going to bring this up, because we will be speaking with a sanctuary member later on, but anybody that dives in the lower Keys would know that water quality plays a major issue with juvenile fish. For instance, yearly, in large swaths of bottom in the low water, we will see these algae blooms that basically just smother the bottom, and you can't hardly find any fish. Any fish that you do find are the more hardy fish, and all these juvenile grouper and angelfish and wrasses, they are basically just moved out of the area. There's hardly any fish to be seen, not to mention lobster also seem to leave that area. Then, just looking at the aftermath of a red tide, you will see that large swaths of bottom are barren of fish and dead corals and dead sponge and everything that goes along with that kind of issue.

MR. PASKIEWICZ: Going back to the scamp and some of the juvenile areas, in the Keys, I can recall, on really windy days in the wintertime, maybe not making it all the way to the reef and stopping on some of the rocks in Hawks Channel within three miles of the shoreline, and those would be my only interactions with scamp grouper, and they would probably be in the six-inch range, flatlining for yellowtail and flatlining for mutton snapper. Your bait makes it near the bottom, and you're using a 1/0 hook on relatively light tackle, and you would pick off some of those smaller scamps, and 100 percent release rate alive and all of that, but, now that we're asking these questions about where the juveniles may be, I do know that, off the coast of Florida in the wintertime, there are fish there, and so if that's any help.

MR. HULL: It is. Thank you.

MR. MOSS: Just to follow-up, the more I think about it, when we do get scamp, of legal size anyway, it's typically in the Tortugas, and that's where we'll find smaller ones too, which is way out in the middle of nowhere, and so it's probably a little bit of a nursery out there, I'm going to assume, and it is for everything else.

Then, just to follow-up on what both Jack and Jim have said about water quality, yes, it's an issue. It's a very hot-button issue anyway up and down the coast of Florida. Like Jupiter Inlet has lost a ton of seagrass up there that's normally a nursery, and obviously the Indian River and all those

issues, and it's got to affect everything. Florida Bay and Biscayne Bay, there is some serious water quality issues that is affecting everything as a nursery for not just juvenile fish, but baitfish as well.

MR. HULL: I think we can all agree to that. Cameron, let's do this, and then we're going to have to get through these other questions. A lot of them we've answered, but go ahead, Cameron.

MR. SEBASTIAN: As we've gone through this, and it goes back to my original statement. Before we start saying that -- Fishermen and fish techniques and things like that that are taking the fish out of the water, and before we start shutting down more timeframes, or the less fish we can keep, and I would like to make sure, damn well and good, that, hey, it's not a dredging issue, and it's not a water quality issue, and it's not all these other factors that play into it, before I get penalized, and my customers get penalized for something that we have no really effect on whatsoever.

In the overall scheme of things, there's a lot of stuff that can be going on. I know, in Myrtle Beach, they just literally dredged thirty miles of coastline, pumping sand up on the beach, and, underwater, we see these waves of sediment that you can't even see through. I mean, we have to move further out on our dive sites because we can't even see to dive in those areas, because of the amount of sediment that's been pulled up off the bottom. Maybe or maybe not that has an effect, and they do it every five to ten years, after big storms, because we have to have the beaches. If we don't have the beaches, I'm out of business anyway, and so it's a catch-22.

MR. HULL: Thank you for that.

MR. HUDSON: When I was fishing, and we would get those spring cold-water effects down our way, and it seems like, for the last several years, I have heard of a lot more of them than before, and I would always have to just go out towards the west wall of the Gulf Stream, just to find the warmer water, because -- What did we call it? Lockjaw current.

Whether that makes those animals disperse further offshore for the warmer water, because I don't recall seeing a whole lot of small scamp, historically. They were always fifteen-pound-plus or something like that, and so that would be another thing to look at, because I know that that cold water is having some effects, because it has been increasing a lot lately.

MR. HULL: Okay. Thanks. The next question is, and I think that, unless you disagree, or think that there's something different, then we'll just concur that we agree with whatever is implicated here, and so catch levels over the past five years. When and where are the fish available, and has this changed?

It sounds like, according to some of us -- For me, it hasn't changed, and it's pretty much the way it was. It's always been an incidental fishery, the way that we address it. Does anybody have anything else to say about that question?

MR. BONURA: I was just going to add to this, that, in the Florida Keys, when we've been fishing for them over the past five years, I have probably caught about 200 pounds, maybe, in five years, and it's usually while we're amberjack fishing or black grouper fishing out in about 250 to 350 feet of water.

MR. HULL: Okay. Go ahead, Randy.

MR. MCKINLEY: I just wanted to reiterate that, going down inshore of Frying Pan Shoals, going back ten or fifteen years, or probably fifteen years ago, there was just massive amounts of small red grouper and scamp, I mean absolutely, and they are gone now, completely gone.

MR. HULL: Yes, that's very important. Okay. Has the size of the fish changed? If so, could you briefly describe the trend?

MR. MCKINLEY: I would say that it has changed. We're catching just a lot fewer bigger fish.

MR. HULL: Okay, and I think, Cameron, you stated earlier that you're still seeing the same mix, pretty much, off of Myrtle Beach, when you're diving, whatever strata of bottom you're diving, and what depth is that?

MR. SEBASTIAN: That's going to be running between usually ninety and 125.

MR. HULL: So it's pretty much remained the same for you. Okay. The next bullet point is have there been effort shifts to or from scamp?

MR. SEBASTIAN: Just real quickly on that, one of the things that I noticed in some of the newer guys coming up, especially with spearfishing, is, when we would hit an area, we might hit it once. We would hit one area once, and then we wouldn't go back to it for five years. I see a lot of the newer guys that they will fish it out and then move on, especially -- I'm a diver, but some of the guys who dive will start on one end of a ledge area, and they will work to the other end of the ledge area, dropping divers every so many feet, and they pretty much clean that area out of maybe what is a breeding-size fish. Once again, I am no scientist, but it seems like, some of the newer guys, their fishing techniques are more damaging, because they wipe an area out before they move to another area, and that's just an observation of different techniques and different generations.

MR. FREEMAN: Speaking with one of the commercial boat operators, he said that, and this would maybe impact the poundage that is showing up on our graphs, and I think we often don't appreciate how things like closing the snowy down -- Well, the snowy, according to this guy, are mixed with the scamp, and so, if you're not fishing for the snowy, then, obviously, you're not catching those scamp, which doesn't mean they aren't there, and they wouldn't show up if we had some different regulations going on with what they are allowed to catch and the time of year they're able to go.

MR. HULL: I hear you. For me, has effort shifts happened out of Ponce Inlet, Florida, yes. With the grouper closure from January through April off of Florida, we don't really make any more grouper trips targeting gags, and we would always catch a few scamp. I mean, it's mostly a dayboat fishery now, and most of the people that used to fish for grouper are fishing for vermilion and amberjack and making it that way, because we can't -- That's when they're off our coast, and that's when we used to catch the scamp with them, and so, yes, there has been an effort shift, but there's also on the recreational side, which Randy's club -- I mean, I'm sure they have meetings, and they are training each other how to go catch scamp and let's go get them, and so probably, on the recreational side, you're seeing an increase in effort, I would guess. I mean, I'm seeing it, and so, for me, yes, there has been an effort shift, and it depends on which sector you're in off of Florida.

MR. MOSS: Going along with what Cameron said, I know just a little bit north of me, in the Jupiter area and stuff, where the reef is so close -- Deeper stuff, like a hundred feet or so, is within a mile or two of shore. With the influx of all the guys now that are doing a lot of spearfishing and stuff, they are noticing that it's cleaning those areas out and pushing stuff deeper and deeper and further offshore, where a lot of guys won't go, just because, from a recreational standpoint, it's a lot more difficult to anchor out in that deeper stuff, and so I don't know that there's an effort shift for scamp particularly, but probably for grouper in general, just as you were saying.

January through the whole closed season, they don't go for them at all, and then, once the springtime opens up, everybody is going for dolphin down by us anyway, and so that could have shifted things, and certainly all the spearfishermen now that are out there have kind of cleaned off the shallow reefs, and they're pushing everything that's keeper sized further off.

MR. MCKINLEY: There's definitely an effort shift for all groupers, and we'll fish for them -- Our whole fleet fishes for them in May and June, but, then in July, we go after the trigger and b-liners, but, saying that, we still, every stop, either the first drop or the last drop, we'll all make a grouper drop, and so we're still fishing for them, and so, if they were there, we would be getting it and concurring with the divers too, but they seem to be moving a lot more, and they're just not there. I wish that was the case, that it was just because -- But I don't think that's it.

MR. COX: I was just sitting here thinking about back in the 1980s, when I used to fish with Milton on the back of the Strawberry, and I was a deckhand on a snapper grouper boat, but I just -- I am recollecting some memories back in the 1980s, when we would go to the Naeco and we would catch 500 or 600 or 700 pounds on that high-relief wreck of big scamp, ten or fifteen-pounders, on one stop, and it's funny. The guy that I used to work for in high school, on the back of a -- He was a bandit fisherman on that boat, and now he runs my boat, and I wish Milton was here, because these older guys like that are willing to give back and say, you know, this is what I think happened, and this is where it is, but the effort shift -- We did used to target those fish, and they were there, but they're not there anymore like that, but that Naeco used to be full of big scamp.

MR. LORENZ: It will just be interesting this year to see -- As I said, in my area, with the red grouper bite, but, with nobody targeting scamp, it will be interesting to see, on MyFishCount, or any reportings to Julia on the scamp discards, where that's going to go now, as of September 24, because, as I mentioned, the scamp was kind of a sidelight, one out of six, for the red grouper, and so it will be interesting to see if you get any more scamp reporting or whether -- My hunch is nobody is targeting scamp, because, from what I have kind learned here, we may not be fishing right for them, three feet off the bottom with a heavy weight.

MR. HULL: Okay. We're going to move on to the next bullet point, which is what do you see in terms of discards in the commercial sector and in the recreational sector, and how often are scamp discarded during the open season versus the closed season? Pretty much all these questions are, are you discarding any? Well, if you're not catching any, you're probably not discarding any, and the citizen science app has proven that, on that side too, and so I don't know that we need to dig into many more of these. How feasible is it to avoid scamp? It's real easy. I mean, that pretty much covers those.

Going on to the social and economic influences, for the commercial sector, how has the price and the demand for scamp changed? From my answer on that, it's the demand is there, because the demand for all fresh, local seafood is there, and it's increasing every day, and, for scamp, the price has always been the highest-priced grouper. It's the Cadillac of grouper, and so the price would be really high for scamp. If I was offered a couple of boxes of scamp, I would be willing to pay a lot for it, because I could get a lot for it. It would be up in the sixes to the boat, or sevens. It probably hit the seven mark, easily, for scamps.

MR. MCKINLEY: I finally -- I never sold a gag or a scamp the last -- Well, the previous two years, it was always $6.75. Finally, this year, we bumped it to $7.00, and I've been getting that for the scamp and the gags, which is a good price.

MR. COX: I want to back up just a couple of bullet points here that we missed, but, yes, for the scamp, we see a lot more scamp in the winter, when the fishery is closed, and there's a little bit more interaction when we're b-liner fishing, and the guys will catch some at the 600, and I was talking to Dunny about this before I came in, and I was trying to get a little bit more insight, because they do the deeper fishing, but, yes, the fish bite better in the winter, the scamp, for us, and that's when there is more interaction.

I think that the best practices in Amendment 29 is going to certainly help with some of these issues that we're talking about, if these guys will learn how to use these descending devices, because there is interaction when they are b-liner fishing, for whatever reason, because they do get on the smaller hooks, and so I think it's important that we take that amendment to the fishermen and let them understand why we're doing it and how we're trying to recover species like scamp and not just make them have this tool on the boat, but show them how to use it, because there is discards going on, and I think they will use it, but we have to teach them how to do so.

MR. HULL: I agree. Thank you, Jack. Anybody else? Okay. On charter and headboat, charter and headboat guys, has the demand increased for scamp on your trips, or do people expect to catch a scamp?

MR. SEBASTIAN: It's pretty much -- In our business, as long as they have the opportunity to catch a group, scamp, pudding heads, grays, as long as they have the opportunity. Whether they do or not, it doesn't matter. As long as it's available to be done, then our guys will still keep coming and going out fishing with us. It's only when we say that species is shut down and they're locked out for X number of days, and then it goes away. Then they stop coming.

MR. HULL: Okay. The next question is what communities are dependent on the scamp fishery? Well, I would answer that and say that, right now, we would love to be dependent on the scamp fishery, and we would love to be able to catch some scamp, obviously, because we could get a good price for them, and they're in high demand, but we're not seeing that, and that's why we're here talking about it and trying to figure out why.

MR. MCKINLEY: I would just like to say that every single component of these -- Every one of these individual species are important for our North Carolina fleet, because we don't target any one thing, and they all make up -- When we come in, we may have twenty different species, and so every single one of them is important for us.

MR. HULL: Right on. Have changes in infrastructure, docks and marinas and fish houses, affected fishing opportunities for scamp, in either the commercial or the recreational sector?

MR. MCKINLEY: It's the same with all commercial fishing. I mean, I've got three -- The one I'm at, I'm very lucky that it's sort of a little private fishing packing area with availability with the docks and ice, and there is two more within probably thirty miles of us, but, at any one given time, these things may sell out, and, if it does, it's going to shut us down, because there's only a certain amount of room for the few commercial fishermen that are left, and I'm sure that everybody would echo that. I mean, if any one of those things are sold out, it could be devastating for us, and we have to have access to the water, and we have to have ice.

MR. HULL: We are losing working waterfront.

MR. SEBASTIAN: I concur with Randy. Just in our little area of Little River, the last fish house in our area, the main owner passed away last year, and so now it's his wife struggling to run it, and her son, who is struggling to make it to work one or two days a week, and so it looks like it's going to -- When those guys go, then, in our area, there will be pretty much no more commercial fishing, except for a few small boats, like our guys have got, and we worked hard at trying to acquire and do long-term leases at docks, but it's not for commercial.

The money is not there. Nobody wants to work that hard, and it looks like, from where we're seeing it, it's a dying industry in our area, and the real estate property values are too high, and so, for the docks that we've acquired, we've got the put the biggest boats in there that carry the most people and that generate the most revenue, and it's just the way it is up there.

MR. LORENZ: I am going to take an actual slightly different swing on this, and, instead of fishing opportunities, but potential fishing pressure for scamp, and the recreational fishermen -- Opportunities have abounded more each and every year, and it's only going to increase. We do, in my area, have a little bit of a slip shortage, which includes high-drys, but we can work on that.

We can get high-drys built, with the lifts that are able to put the boats in the water, and price doesn't seem to be an object much at this point, but it's just, the past five years, with the boats that they are designing in the twenty-four to thirty-foot class, with the horsepower you can carry on them, for folks like us that used to have chug along for about three hours to get to the fishing grounds, we have a lot more folks that, if you have the money -- Speed costs money, and how fast can you afford to go? You can get out there in an hour. Our opportunities will actually increase, which means that we may inadvertently put more pressure on that resource, and, again, you won't know who we are.

MR. HULL: Randy, off of Daytona, the recreational sector, do you see where there's been an increase or a decrease in opportunity, because of an increase in say marinas and availability of what Bob is talking about, technology and boats and speed, where they can address these fisheries?

MR. BEARDSLEY: Yes, I would concur with what he says. Of course, the go-fast boats, the outboards, having triples, quads, you name it now, and, I mean, we've seen it in different -- The SKA to other areas, but, in our area, basically we have two places, yours and Kings, for those types, but, on the recreational, we only have one major like ramp area in ours that we can use, which is Dunlawton, and, if you don't get there by 6:00 or 7:00 a.m., it's closed, and it holds

probably a hundred spaces for your trailer and everything, and so, if you don't get there -- Then the city doesn't work with us real well.

We don't have room -- I mean, they did put one in, but they charge you, but it's a steep ramp across from the New Smyrna Airport, and it's hell trying to pull the thing out of there, it's so steep, and it's small, and they put in poles, and so, if you don't back in straight, you're going to hit a pole with your trailer and so forth, at the New Smyrna ramp, but it's -- They have talked about trying to find more areas, but it is -- I think they told us, because they just dedicated it to one of our deputy sheriffs that passed away, that that ramp is the highest in almost all of central Florida. It has the most traffic, that ramp, but we don't have any other places.

I mean, we have them parked all the way down the causeway on the grass, and they will ticket you, and so it's running people off, trying to find other areas to put in, but we have had more boat dealers come in, and now we're seeing more boats, I mean Atlantic Marine and some other ones. They are selling boats left and right, and so we're seeing an increase, but we don't have a place for these people to put in.

MR. HULL: So there's a shortage of infrastructure for that sector to address the fishery. Okay.

MS. JEFFCOAT: We're very similar in that situation, where we've had a ramp that has been completely redone, and it's a double ramp, and parking is all the way down the road, up to the next intersection, and now it's on the table that the Lazaretto Creek ramp -- Port Pulaski wants to start charging people for parking that is not on their property, and so there is just not enough room, but there are so many more boats in the water, and so there is definitely a change.

MR. MCKINLEY: I wanted to add to what Robert said. What he didn't mention is the fact that Wrightsville Beach has got that beautiful double jetty, and it's the only place in North Carolina like that, and the population explosion is incredible in the area, and so there is just unbelievable amounts, and anybody can come and go. In my poor inlet, I think I'm about the only boat that uses it. Everybody is afraid to. I hit bottom the other day, three-quarters of a mile off the beach, on the outside bar, and it's terrible. New River is not very well, and Carolina Beach Inlet I don't think is that good, but what he's talking about is just unbelievable amounts of traffic coming, and it's going to get worse and worse.

MR. HULL: Okay. Thank you. How have fishermen and communities adapted to changes in the scamp fishery? For us, it's pretty much like it was, but, as I said, off of our inlet commercially, we target vermilion and trigger and amberjack, and we have to be able to diversify. You have to be able to move from one fishery to the next, and we can all pretty much experience that. We have to be able to do that, I think from all sectors, but that would be my answer to that. We do adapt, and we adapt to another fishery that we can make it in. Anybody else? We will move on to management measures. Are there new management measures that the council should consider, or are there existing management measures that should be changed?

MR. MCKINLEY: I am really concerned about -- We've heard all these different things, and we have no clue why there is not grouper like there used to be, and, since we don't know that -- I know that we don't want to be stopped fishing, but I'm real concerned that, if we do less and less -- Like I said, there was so many of those fish out there twenty years ago, and there is probably four-times

more effort, but there was always the recruitment and stuff, and so I feel like something catastrophic has happened, and I am real concerned about the divers.

Two weeks ago, I was out there, and the diver came on the radio, and he had five fish that weighed over 250 pounds, and he had a hundred-pound black, and he had three gag that were fifty pounds, and so I'm afraid, if we don't address the diving situation, and, since we don't know where it's coming from, that could be the nail in the coffin for the last big fish and some of the big breeders and stuff, and so I'm real concerned about that, and I know we're not talking about that at this particular meeting, and we did address it at the last meeting, but I am still concerned about that.

MR. HULL: Okay.

MR. PASKIEWICZ: Randy, to that issue, would you be proposing a slot then for the grouper, because we're talking about management measures, and so, I mean, I get your point, but, within that, what would be your actual --

MR. MCKINLEY: I am not against the diving, per se. There's a lot of fish houses that depend on that, for the hogs and the stuff that we don't catch and stuff, and a slot limit could easily be done, and maybe a different -- I mean, you know, there's a ten-box limit on gags, and we never catch that anymore. For divers, maybe it could be five or something. I mean, there's all kinds of different ways. I am not against stopping it. My concern, also, in North Carolina is, right now, there is two that I deal with in Onslow Bay, two really good ones, but what would stop ten more from coming from Florida, which would just -- Or from wherever, and that would devastate us, I feel like. It would put the nail in the coffin.

MR. HULL: Randy, let's just say that they put a slot limit in on the divers of a certain size. Would you also put that slot limit on the hook-and-line?

MR. MCKINLEY: With the gear I fish with, I don't ever catch them over fifty pounds. We just don't -- A thirty-five-pound blackbelly gag is about as we're going to get on hook-and-line.

MR. HULL: So you would accept the same slot limit?

MR. MCKINLEY: Yes.

MS. MARHEFKA: Jimmy, you and I had this conversation, and I said that I wasn't going to bring it up, but I'm going to. I am not proposing that we look into this right now, but Mark and I have been talking a lot recently, and he feels much stronger than I do at the moment. When we first stated our marine protected area process, the council had talked about doing a series of stair-stepping from the deep water into the shallow water, so that we were capturing a little bit of every kind of bottom, setting it aside.

I don't think there's the will to do that right now, and I don't think that we have enough evidence for the ones we have in place right now, and I think it's there, and I don't think that we've really been able to demonstrate it enough to sort of -- I wouldn't want to be the staff member that has to go out and talk about more areas, but, if I were queen for a day, I would absolutely, to protect these red grouper, these scamp, these gag, to take some of the pressure off of it, and I think the best thing we can do, when we're ready, is to look at some protected areas moving more inshore.

There are so many things that we don't have control over, and there is water quality issues, and there is overdevelopment, and there is all these other non-fishing issues that we don't have control over, but we do have control over taking hooks out of the water and letting some of these fish be. Again, I'm just saying it to get it on the record, in case there is someone out there listening that is ready to fight the battle more than I am, but I think, eventually, we're going to need to do it. I think we need to leave a little bit of every kind of bottom alone for a very, very long time. Just a little bit, and not a lot.

MR. HULL: Thanks, Kerry.

MR. LORENZ: I am just going to put a shout-out in this fishery, and it may not pertain to scamp, but what Jack had mentioned about behind where his boat is and seeing the juvenile gags. Where I live, along the ICW there, we also saw a lot of juvenile gags in the summer, where children and all would catch them off of our community dock, from our housing development, and I have not seen that in the past ten to fifteen years. About fifteen years ago, we did see it.

The other issue is, in the past ten years, the water just is consistently more cloudy, and probably due to overdevelopment, the golf course's fertilizer, the people walking their dogs along the marsh edges, and that's probably having an effect, and not only is it things like that what was exciting for the children would be to catch these little juvenile gags, and, I mean, they are quite exotic to them, but we used to have scores of ballyhoo running around inside -- Even almost into the tidal creek, and there's less and less of that every year, and so, besides just throttling fishing effort, I think, for all the fisheries, we really have to look at coastal development and water quality. I think everybody has to make noise on that, and I don't know what to do, but I think we've got to do something, and it's connected in there, on a bigger-picture issue.

MR. MOSS: To kind of piggyback on what Bob had said, and a few of the other guys, about not just fishing -- Well, really fishing pressure, certainly from the south, but, on a decently flat Saturday, out of Hillsborough Inlet, it's like a line at Disney World to get out of the inlet, down by me in Pompano. I mean, it's amazing to look, and there is ten boats in front of you, and twenty behind you, all in one line just to get out of the inlet at six or seven o'clock in the morning.

There is no shortage of docks around us to launch at, and they're all full, and it's not like we just have one or two, and then forget about development on the shoreline. I mean, there's not much left to develop anymore, and, as far as fish houses, I think there's one left in Broward, or maybe two, that they can go to, and there is no way that they're going to be around for that long, with the way real estate prices are.

From a management issue, I don't know that there's much that we can do more than what we've done, unless we know who is out there actually fishing, dare I say it, again, at least from a recreational standpoint, and, like I said, it's astounding to look at the number of boats shooting out of just one inlet, and, down by me, there's an inlet about every ten miles that are all the same. Like I said, on a flat Saturday or Sunday, forget it. You can walk across without getting your feet wet on the number of boats out there. It's pretty astounding.

MR. HULL: I hear you.

MR. GOMEZ: This is a question for Todd. I mean, it's pretty obvious that snapper reproduce quicker than grouper, and I would imagine they produce more eggs, and where do they reproduce? Where do the grouper reproduce? I think I know the answer, but I want to know if you know, and would water quality affect those eggs, because that could be part of the problem, that the eggs are actually not being able to hatch, because of water quality.

DR. KELLISON: Thanks for the questions. I would say, in general, that the grouper are spawning out at the shelf break, and so far offshore, which is where you would I think least expect to have water quality impacts, I think.

MR. GOMEZ: Are the eggs possibly affected by water quality, as far as being able to hatch versus not hatching at all?

DR. KELLISON: I guess that's probably a pretty vulnerable life history stage, but I'm not aware of, I guess, any impacts, broad scale impacts, to water quality that would be occurring that far offshore. I might say that other factors, such as like food availability, like when they're small larvae, that could be affected by large-scale environmental drivers, could be something that could be affecting the recruitment. That's, I guess, a plausible hypothesis.

If one were trying to think, okay, what are some reasons that a stock could be declining, or maybe multiple stocks, like red grouper and scamp could have declined, there could be some issue that is limiting their, for example, larval survival, which could be water quality, but, again, I'm not aware of any broad changes to water quality in those offshore waters where I think these species are spawning.

MR. GOMEZ: When you look at algae blooms and the red tide, I mean, it seems pretty commonsense that that could be a problem, and so, when we talk about hooks in the water versus water quality, I think that's hardly comparable.

MS. BROUWER: Just a quick question, while we're on the topic of potential factors that may be limiting recruitment, or maybe even reproduction. One thing that Chip just brought up to me this morning is there is evidence of a parasite in scamp off of South Carolina that -- I don't know what these things are doing, but I'm just throwing it out there, to see if you all have seen any evidence of parasite infections or whatever.

MR. HULL: Anybody seen anything different? We haven't been catching that many scamps, but, Todd, as far as -- I have heard a lot from the deepwater grouper fishermen, fishing for snowy and yellowedge off of Port Canaveral, and they work off of our inlet too, and they have commented to me that the water quality offshore in that deep water, whenever there is -- South Florida dumps opens the gates from Lake Okeechobee and all this water comes out of there, and they're actually seeing it out there in the water quality in that deep water, and it's affecting their catch, and so there is some evidence that the water quality in the deep, at least from their perspective, there is an effect in the deep and not just in the shallow.

MR. COX: We're talking about a lot of fishing here, but I just wanted to bring a point -- I want to give the council something that they can use with the conversation that we're having here, and, as we have these conversations, I think that we're missing a component, and what we've discussed is that scamp are tough to catch, and they're unlike a lot of the groupers that we interact with, but,

as a dealer, which I am, a lot of the grouper and scamp that we get, when we have thousand-pound catches, are coming from the divers, the commercial divers, and they are very -- They have gotten very good at what they do, and they certainly are within range of getting the scamp.

As a management tool, I would recommend that the council look at implementing a trip limit of somewhere in the neighborhood of 500 pounds for commercial, and, just for the record, I think most of the scamp landings commercially are coming from the divers, in my area anyway, and I have heard below me, in the South Carolina area, as well.

MR. HULL: Okay, and so there is a recommendation from Jack.

MR. COX: I was just saying that we can't catch them, but you can shoot them, and it's very effective, and diving -- We have talked about it before, and it's taken off in a big way, and the technology has changed, and these fish are very -- We can get them. We can shoot them.

MS. MARHEFKA: I would just like to say that I would go on the record as being supportive of exploring that as an option. I mean, it's very early, and it gives the council something to work on and get some feedback from the public about it, and I think it's worth exploring, for sure.

MR. MCKINLEY: I would second what he said, but I would want to add gags to that, scamp and gags. I mean, five boxes, to me, of any species of grouper is great, and the hook-and-line people aren't catching that, very seldom, and so the divers -- They do it every time, if the water quality is there. Our guys are doing that, and they're maxing their limits every time.

MR. MUNDEN: A question for Jack. Did you mention a 500-pound trip limit?

MR. COX: Red, I did, because, with today's prices, when you're talking about six-dollars-plus for grouper, that's certainly something that works for us, and it makes our trips worthwhile. I don't want to step on your toes, because I'm closer to fish than you are, and so I'm certainly talking about Morehead City.

MR. PASKIEWICZ: For discussion's sake, and for argument's sake, we talk about the older generation of commercial fishermen, the hook-and-line guys, kind of going by the wayside, and we don't see a lot of people wanting to step into our shoes, and I'm one of those guys. I'm a hook-and-line guy, and the evolution of our industry seems to be going to diving, and, as a hook-and-line fisherman, we talk about making our trips efficient and making our fuel count, and that's why we've always been opposed to some of these trip limits, given many different circumstances, and, for argument's sake, I would say you would create some inefficiency issues with making trips. When the conditions are there, everybody wants to capitalize, and so limiting divers is probably not the best option, in my opinion.

MR. FREEMAN: It's just an observation, but, more than twenty years ago, there was a period of significant flooding of the Mississippi River, and, offshore of Morehead City that year, some two months later maybe, the Gulf Stream turned brown, and so there is definitely an impact from all of these things, and it's not that we're going to control any of it, but we've got to roll with the punches and deal with what's there.

I don't remember that we had great difficulty in catching fish, but the timing, I think, kind of coincided with the exodus from Cuba, because we would find some of those rafts that they had escaped on, two truck innertubes and a board or something, but, anyway, the Mississippi River flooding certainly was an impact of water quality off of Morehead City.

MR. HUDSON: Jimmy, if you remember, some of our rock shrimpers down our way were encountering that algae on the inshore side of all the oculina that they believed was spawned by stuff in southeast Florida, sewage or whatever, and that needed investigation, and I don't know if that's been followed up on, and it was just a thought, when you talk water quality and different impacts.

MR. SEBASTIAN: For setting trip limits on commercial, is it 1,000 pounds right now, and you're proposing 500, and it's to limit -- It seems like the slant is to limit what the divers can do, because we are exceedingly effective and efficient. I mean, we have adapted to the environment, and we've adapted to what's out there, and we're following the rules, and we're within what's set forth at the current federal guidelines.

I equate it to shooting buffalo. I mean, when we go down there, if they're there, they're coming back, and we're 100 percent effective and 100 percent efficient, and there is no bycatch and no waste and no anything, and so we're going to get what we get, as long as they're down there. That's just the reality of the situation, and so, for commercial, if you're looking at bouncing back -- If it will having a meaningful impact on the overall species, then maybe it's a step-down, and maybe it's a meet in the middle.

Instead of a 500-pound trip limit, maybe a 750, and that still gives somebody, if they're doing some hook-and-line and some spearing, and somebody else -- Not me, but somebody else run the numbers on it and see how much they're making per trip, if they're doing 750 pounds for a commercial trip limit versus 1,000 pounds.

As far as a management measure for recreational, I believe I saw in the graph the other day that maturity on scamp begins at twenty inches, and so, if we say, hey, if the maturity is at twenty inches, and that's when they're going to be taken out of the water, then, if it's a 10 percent increase to a twenty-two-inch length for scamp, and I don't how many years that gives them extra to produce that maturity, or even if I'm going down the right page, but, for the recreational side and the charter/headboat -- A size limit, to us, is much better than taking fish off or shutting fish down. A higher size limit is 100 percent the way to go for the charter/headboat industry, or much better than saying, hey, you can't catch scamp for six months out of the year, because that just turns people off, and they just don't go fishing.

MR. HUDSON: On a broader view, we've had this shallow-water spawning season closure in place for a decade, and I don't know if there's been a review, or if there needs to be one organized and then presented to this panel at a later date, and that's just an idea.

MR. PASKIEWICZ: Maybe I misunderstood Jack's intent with the 500-pound trip limit. I heard that as gear-specific, as far as divers, and you were mentioning across-the-board, or was it gear specific?

MR. COX: James, I would say across-the-board. At the price per pound that we're getting for fish, it certainly complements a trip of three-thousand-plus dollars for a 500-pound of gag or scamp fishing trip.

MR. PASKIEWICZ: Then I would like to change my point. What I wanted to avoid with a one or two methodology limitation would be you would be open the door to do that all across different species throughout the South Atlantic, and so, I mean, if it's going to be across-the-board, putting in a trip limit, then it's fair, and I'm all about fair.

MR. HULL: What I am hearing is we may want to advise the council to consider a possible trip limit on scamp or a possible trip limit on the entire complex of grouper, gags and scamps, or just scamp, and something like that, and is that what we're -- It sounds, to me, like that's what I am getting out of it. What are we going to do? The question is what can the council do to help this scamp stock rebuild, as far as management? Is it a slot, or is it a trip limit? What is it, and so have we -- Jack, go ahead.

MR. COX: I think that the council is working on some of these species that don't have trip limits, if I'm right. Is that right, Chris? Are you guys working on putting trip limits on most everything? Anyway, it would be interesting to get from the Science Center to find out, with the trip log program, trip ticket program, to see how many scamps are coming from diving and then maybe look at a gear-specific deal, but I think, in the short term, we definitely need to put trip limits on species on all of our fish, especially these fish like the fish that are having issues, like we did with red grouper.

It's good to see the 200-pound trip limit, and I think we definitely need to do something with scamp, but I wouldn't be as tough on it as I am red grouper, plus we don't know what's going on with it, but there's certainly people, divers, that are getting 1,000 pounds, and so that's why I was recommending something like a 500-pound or 700-pound trip limit, was just to slow it down somewhat until we figure it out.

MR. HULL: I hear you. Okay. Is that good on that, Myra?

MR. BONURA: Just a question for Jack over there. I was wondering, were you talking about a 500-pound trip limit on scamp grouper by themselves and a 500 on gags or combined?

MR. COX: I was referring to scamp.

MR. HULL: Okay, and so just a limit on scamp, and so, if somebody found a lot of scamp, they can't catch more than 500 pounds, which might help rebuild the stock.

MR. GOMEZ: Just a quick observation, and I know we need to move on, but, for us in the lower Keys, one thing that's happened with the grouper closure is it's almost like created a new mini-season, and so, when grouper season does open, we do get quite an influx of divers coming down into the area and shooting a lot of fish.

MR. HULL: Okay. That's really good information and good stuff there. Environmental and -- Go ahead, Robert.

MR. FREEMAN: Just a question for the scientists in the group. How confident are we that we've got the closures at the right time of year to allow these fish to spawn?

MR. HULL: That ties in with Rusty said, that we need an evaluation of the decade-old closure and look at it again. Yes, right on. Okay. Environmental, ecological, habitat, have you noticed any unique effects of environmental conditions on scamp? I think we've talked about a lot of this. Is there anything to add to that?

MR. LORENZ: I just have one tiny thing, since I am kind of an ex-scientist, and it was very interesting to hear that there may be a parasite that is affecting scamp, and so, when you get into those who are suspecting water conditions, and maybe these fish are offshore and thinking it isn't -- The interesting thing with parasites is they have various life cycles that go through many species and many areas to eventually get to someplace, and so that kind of fascinates me. Until we know what the life cycle is of whatever that parasite is on the scamp, and it could be something for even inshore water conditions that might affect it, until we find out what that is.

MR. MUNDEN: I am sorry that Andy Piland is not here, who fishes north of Hatteras, but a question for Todd. Has there been any shift in the range of scamp, maybe north of Hatteras? I don't know that the habitat up there would be very suitable, but is there possibly any northward shift in the range?

DR. KELLISON: I don't know the answer to that question. Within our agency, National Marine Fisheries Service, we are thinking about how to address this issue along the coast, and so I mentioned that water temperatures have been relatively stable in our region over the last couple of decades, and so maybe they are ticking up now, but, in the Mid-Atlantic, and maybe the north Atlantic, they have increased considerably over a decade, and so there is evidence of species either shifting distributions or increasing their range, but one challenge that we have is that the data collection programs that we use regionally aren't necessarily consistent coastwide, and so our main like reef-fish-targeted survey is the one that Wally talked about yesterday, traps and video.

Once you get up north of North Carolina, and so the Northeast Fisheries Science Center, their predominant regional-scale survey is a trawl survey, and they are targeting different habitats, and so it's difficult to make -- Well, a great example was blueline tilefish a few years ago, and the catches were going up in the Mid-Atlantic, and so people were saying, well, their distribution is shifting, but there are a number of reasons that catches could change other than shifting distribution.

One challenge that we have is that our surveys aren't the same regionally, and that would allow us to best make inferences about -- To best determine whether or not species appear to be shifting distributions or expanding northward, and so that was -- I guess I'm not sure about scamp. I'm not sure if there's any indication of, for example, increased catches. I don't think that -- If they were expanding northward, I don't think that that would necessarily be a signal that would show up in the trawl survey, because they are not trapping up there, but let me see what I can find out.

MS. MARHEFKA: I'm so glad that you asked that question, because, yesterday, I wanted to ask Wally if there was something to the north that was equivalent to what they were doing, because I am wondering over this overall -- If we're going to start seeing an overall northward shift. Just thinking long-term, are there ways that we, as an AP, can influence -- I mean, obviously,

MARMAP is doing the best they can with the resources they have, but how do we -- That question is going to become more and more important, I suspect, and so whether or not they have the ability to shift some of their sampling sites northward, and it looked like their bound was Cape Hatteras, I believe, their northern bound.

DR. KELLISON: Correct.

MS. MARHEFKA: So it's a long-term question, but one I think that we might all need to really start talking about and any way we can help you all pressure for funding or anything to figure that out, and I think we're going to kind of want to start paying attention to what's happening north of Hatteras with our species.

MR. PASKIEWICZ: Basically, on a similar situation, I would like to know what's going on to the north of the South Atlantic, and are there landings of scamp grouper in the Mid-Atlantic? Are there any situations where they have to report those landings, and, if those landings have been reported over the last decade or two decades, have they increased? I think that, if there was no science in the area, maybe just landings alone could paint the picture.

MR. HULL: Right on. The next bullet point is what are your observations on the timing and the length of the scamp spawning season in your area? The only thing I would say to that one is we do have a closure. I don't have the -- I believe the scamp spawning time is pretty much the same as the other groupers in the complex, and so the closure doesn't seem to have had an effect, as far as increasing the grouper populations so far, and so it's been in place, as Rusty said, for ten years, and so we do need to look at that, and that was also mentioned by Robert and everyone else.

Do you perceive that the abundance of scamp has changed over the past five years? If so, how has it changed? We've been talking about that a lot, and so I think we can move on. What do you see now in terms of recruitment? Where are the small fish? Are the large and small fish in the same location? Obviously, Cameron has commented on that, that he's still seeing the same mix off of Myrtle. Randy said that he's not seeing any small fish inside of Frying Pan, I believe, where you traditionally say them.

MR. MCKINLEY: I would like to say that -- I know that Robert said he hadn't seen the small scamp, but they are still small gags and small reds. We've always seen them in the waterways, and people catch them in the crab traps in the fall, and they catch them off their docks and stuff, but I have never, ever, ever seen small scamp in there, and so I don't know what to think, but there are reds and gags still in the waterways, but now our inlets are closing up, and I think that's a problem. They haven't dredged them in the last -- The way they used to maintain them, and that could be a factor.

MR. COX: I mean, in regard to habitat, the council worked extensively on Amendment 36 with the SMZs, and we were hoping that, when we put those in place, that it would kind of put another buffer in there to help with the rebuilding of some deepwater species, the red grouper and the scamp, and I don't really know what's going on with the working side of those SMZs, and our system management plan, I think, is maybe looking at that, and am I correct on that, Myra? I just wanted to bring that -- The council has put stuff in place to try to help with some of these things and alleviate some of the pain on species like scamp and red grouper or some of those other

groupers, the warsaw and the kitties, and I just wanted to remind everybody that the Amendment 36 was put in place for some of this stuff.

MR. HULL: Thank you, Jack. Just back to that bullet point, as far as the recruitment, if the scamp are spawning offshore, predominantly offshore, and their larvae are free-floating, and the currents bring them back inshore, where we know we do have water quality problems, as Randy said, let's say up here in South Carolina and North Carolina, and they settle, and they are maybe not surviving, and we may have a real problem if the larvae are coming inshore and then settling, as opposed to settling offshore on the reef, where we don't think we have a water quality problem, and so lots of questions there about water quality.

DR. KELLISON: Just back to the juvenile habitat. I have been looking at papers, and Chip was too, while the discussion has been going on this morning, and I can't find any documentation of inshore settlement for scamp. There is a number of papers from the Atlantic side and the West Florida Shelf, where they have big seagrass beds, and there is big gag recruitment to those, and we do see red grouper inside sometimes, but, just from my experience, and just a lot less than the experience in this room, but, from what I know of the literature, and I guess just making some inferences from what I've been reading, it seems, to me -- I would assume that they are settling offshore somewhere.

MR. GOMEZ: Todd, how much do those traps weigh that you're using? I mean, they're wire, right?

DR. KELLISON: They are wire. We weight them with rebar and leads. We actually put leads on them to make sure that the bottom sits the right way.

MR. HULL: It takes three people to lift them.

DR. KELLISON: Yes, they're not light. They are just kind of more bulky, and so I would guess seventy pounds, maybe.

MR. GOMEZ: So that's about what a waterlogged lobster trap weighs. I think they might weigh a little bit more, but just getting back to we would like this kind of research down in south Florida, and I think it's very important. Since we're dealing with so many rules based on bad science, it would be nice to have some good science around.

MR. PASKIEWICZ: Switching gears a little bit, but not too much, since we're still talking about the shallow-water grouper complex, I would like to make an observation note, as a commercial fisherman who spends 300-plus days on the water. We see grouper get comfortable in our area toward the end of December, nearing the closure. We start seeing them up in the chum slick, up in the water column, and we have interactions with those grouper. As a yellowtail fisherman, they are constantly firing off the bottom and disrupting the comfortability of my yellowtail school that is right behind my boat.

For a number of months, I don't target the grouper, which are there, and I have issues with catching yellowtail because of the grouper, and, as the first of May approaches, these fish are still settled in super comfortable. Everywhere I go, there are grouper, and, as soon as the season opens, as soon as the first pressure is felt, and I'm talking about within a matter of two to three days, these fish

are gone. Not because they were harvested, but they are gone because of the pressure, and I don't know if these fish are moving away to be caught somewhere else outside of the spawning period, but I do know that they are adapting to what we have done in this closed period of time.

MR. HULL: That's interesting.

MR. COX: You know, with our trap endorsements, we kind of have a way to do some science work, something a little different than a lot of people have an opportunity to do, but, since we've had to move out to deeper water several months of the year for the right whale closure, it seems that we would have some interaction with some scamp, and, every trip, we'll have at least a sub-legal gag or, every now and again, we'll -- It's a nice way to sample and be able to do that, and our traps come up super slow, and, if we do interact with something, those fish do really well, and there is a little bit of -- Not much.

Those traps are very clean, but I was just saying that it would be interesting to maybe take that opportunity and go out and try to do some citizen science and to look for a way to look for these -- To find some answers for the questions that we're looking for on scamp. It's like where do we find these small fish and how do we interact with them? Then to do some tagging or -- I think of citizen science when I think of all of this and how can we do something with gear that we're already using and give back, because we're already out there anyway working. If we went a little bit deeper and tried to do something like that, and that's all I'm saying.

MR. HULL: Thank you, Jack.

MR. PASKIEWICZ: I just wanted to add to my statement there that, initially, in the first one to five years, those fish were being caught in the first six weeks, and this has been an evolutionary-type change over time. The first few years, I was catching the same amount of black grouper in six weeks that I was over an entire open season, and the diving fleet was harvesting at a high rate over that timeframe as well, and then we have slowly shifted out of that, and the opening of grouper season is the trigger, when they just leave.

MR. HULL: Okay. How have sea conditions, mostly seasonally, affected fishable days? I would just say that, using this recent September and October, it's been pretty tough to get offshore and go fishing. If you did make it offshore, as I have a couple of times, you can't see into the water more than about a foot, because of the silt, and there is huge groundswell. That last hurricane that was way out there, the biggest one on record, it was so far away, but it was sending a groundswell and a surge in that just kept everything stirred up, and so we're definitely seeing -- But, I mean, is that something new? Not really.

MR. COX: The weather patterns have certainly changed, and the weather is a lot more volatile, just like the scientists told us it would be with climate change, and I think we're -- Certainly, in my career, I have noticed that the water clarity -- The storms have gotten a lot more intense, and so the days at-sea are not what they used to be. We don't have those pretty seven to fifteen days that we used to get. It seems like, these days, we get -- Man, you've got to watch the weather close. If you get three days of pretty weather, you've got to go with it.

MR. HULL: Thank you for that. My comment on that was, yes, climate change seems to be keeping -- From my perspective in Florida, we're not seeing the cold fronts making it to Florida.

They are stalling out north of us, and so that affects migrations of every species. I mean, we need these fronts to come through, and it starts with the prey fish all the way up to the predators, and we're just not seeing the same fronts making it that far, and could that change back again? Yes, it probably could, and it probably will, but that's the way we've seen it the last few years. It's been longer seasons, and then the little changes that we see are pretty short and quick.

Have you observed changes in catch depth or apparent bottom type fished on for scamp? Does anybody want to comment on that? Is there anything we can add to that? I don't -- I mean, we have noted that we're not seeing them, some of us, in the depths where we used to, especially the juveniles. When we do catch scamp, you have also noted that the bigger fish that you used to be able to target offshore -- Like Jack said, there was places that used to hold lots of fish, and you could actually target fish, and they're not seeing them there, but this question is have they moved to a different bottom type, and I think we're fishing all the bottom type we can to try to catch fish, and we're still not -- We're not really seeing them like we did.

Have you noticed any change in the species caught with scamp over the years or seasonally? Does anybody have anything to add to that?

MR. MCKINLEY: I would add sharks. I mean, there's just a lot of sharks out there, and we're grouper fishing, and they're a problem, and I know, the meeting before this, we addressed that, but we're not talking about that this particular meeting here.

MR. HULL: Right on. Well, obviously, we're all seeing sharks, and we've noted that loud and clear. Sharks are managed by HMS, and we have some members of this AP that are members on the HMS, and so it's being talked about. Their own surveys show that there is a dramatic increase in the shark populations. Just like in the South Atlantic Fishery Management Council position that they're in, we need science, and then the HMS needs more science too, and it's just not happening.

Number 6 is other, and so this is kind of wide open, if there's anything that we haven't talked about that you want to bring up or some other idea, but what else is important for the council to know about scamp?

MR. COX: I mean, we've got some tools in place to help answer some of the questions that we're looking for. I mean, it's going to be interesting to find out what kind of work has been going on with the SMZ sites in the last few years, if they have encountered any scamp. If they have, are the SMZ sites doing the job that we were hoping they would do? That would be some good stuff that I would like to find some information that maybe we can get back at our next spring meeting.

Also, the app, the scamp app, that Julia showed us earlier on, yesterday, it's something that we need to get out and get in front of these fishermen, especially the ones that are fishing for scamp, and so we've got some tools in place, and I think that we just kind of need to work with fishermen and work with Julia and try to get some information.

MR. HULL: Okay. Very good. The final bullet point is are the current monitoring efforts (trap, index, and catch estimates) sufficiently monitoring the stock? I will start off. I say no, and I believe that the Southeast Fisheries Science Center should be conducting a hook-and-line sampling survey to sample for larger fish, along with the chevron trap.

Find the year-one recruits with smaller type Z-traps. It appears to me that the hub of the fishery is off of South Carolina, or perhaps the Gulf is supporting the Atlantic with recruitment transported by hurricanes, et cetera, and so, for me, there's a lot more that could be done, but the problem is prioritizing and funding that's available to do it.

MR. MOSS: I am also going to say no, from a recreational side, because of quite a few things. Number one, again, I will go back to the same thing that we know has been pushed, but monitoring recreational anglers in some way, shape, or form and what it is that we're doing out there is number one.

The second thing, and I just thought of this, and I don't know why I didn't think of it earlier, but identification could be an issue down south as well, because I know that scamp is very similar to yellowmouth, and there are times when I've brought up one and I've been confused myself. The tails are very similar. When you see the kind of wispy tail, you automatically assume, but it could be identification issues. Like I said, I know down south in the Keys, they are very similar, and so that could be an issue, too.

MR. SEBASTIAN: For the monitoring efforts, with the technology that's available with everybody having their phone and stuff, and I know everyone loves to hate on the divers, but this could be a way that you could actually utilize the divers, because the reality is that we see more, and we know more. We are in their environment more than anybody else sitting at these tables around here, period, no questions asked.

If there is a way, down the road, that you could capture information from recreational spear fishermen and recreational divers, in my view, you are going to be much more apt to get good information from a diver underwater who is going to put in how many juveniles they saw or something like that than a fisherman. I mean, I have dealt with both worlds for years, and a lot of the fishermen that I deal with are like, that's the government, and I don't want to do anything that's going to do anything with them, whereas the divers are much more environmentally conscious of what's going on down there.

Some of them don't care about shooting fish at all, and they just want to go see stuff, but those -- That type of information, if it could developed, I think it would be tremendous to see, because I'm just telling you what I see over the last thirty years. A recreational diver who goes out for a weekend times a hundred, you get a lot of really good information on what the scamp population is looking like, at least off of our coast.

MR. FREEMAN: Just a question. What is the incentive for this diver to come back and report information?

MR. SEBASTIAN: I would say my experience would be that a lot of divers are much more environmentally friendly and much more eco-green, and so it would just be that they would want to do for the greater good.

MR. HULL: Okay. That was a great conversation. You guys did really, really good, and I think we have a lot there, and so I'm going to hand it back to Myra, and we'll go from there.

MS. BROUWER: Thank you, Jimmy, and thanks, everybody. It's going to take me a while to put this report together, but I'll be working on it for a few months, and it should be a pretty good one. I just wanted to pull this up, just for completion's sake, and show you -- This is based on ACCSP landings, and so it's a bit different than what we saw yesterday.

MR. HULL: Okay, folks. We're going to take a break. It's 10:16 right now, and so, in about ten minutes, we've got to get this cranking back up. We've got a lot to cover. See you in about ten minutes.

(Whereupon, a recess was taken.)

MR. HULL: Let's go ahead and carry on. The next item is the presentation on the draft EIS to modify the boundary and update regulations in the Florida Keys National Marine Sanctuary, and we have Beth Dieveney from the Florida Keys National Marine Sanctuary staff that is here by webinar, and she's going to make a presentation to us, and so I'm going to hand it over to Myra, and we welcome her, and we look forward to this.

MS. BROUWER: Beth, I am going to unmute you.

MS. DIEVENEY: Thank you, all, for inviting us, and I'm sorry that I'm not able to be there in person. I just also want to acknowledge that we have Sarah Fangman, who is Superintendent of the Sanctuary, on the line, and also Ed Lindelof, who is our Senior Policy Advisory at our Headquarters Office, is also on the line.

Thanks for having me, and I'm going to give a little bit of background of the Florida Keys National Marine Sanctuary and our current draft environmental impact statement that's out for public comment and talk a little bit about items relevant and of interest to the South Atlantic Fishery Management Council, as the councils have a consultation opportunity through this process.

Just by way of background, to give you context of the management regime in the Florida Keys, what you see here on the slide is the red is the existing sanctuary boundary that was established by an act of Congress in 1990 to protect the resources of the Florida Keys, and our first management plan, which included regulations and a marine zoning scheme, which is shown in all the various colors on the map, was put in place in 1997.

In 2001, there was one change added, these two ecological reserves in Tortugas Ecological Reserve North and South, and our management plan, which is our non-regulatory activities, was updated in 2007, and so it has been since 1997 that our overall sanctuary regulations and marine zones have really been assessed and potentially updated, and that's what is out for public comment right now.

To give just a little bit of background, which I'm sure many know the value of the ocean environment, and the Florida Keys is no different. This just gives some statistics of the recreational use, commercial fishing use, and some of the non-consumptive values and uses in the sanctuary and how much use we get down here and the range of different uses. This slide shows a summary of the value to the economy from a healthy ecosystem in the Florida Keys, the overall Monroe County economy, the numbers of visitors that come on an annual basis, as well as how much of the Monroe County economy really is dependent upon having healthy ocean resources.

However, these resources are impacted by a host of threats and issues. This slide shows that, in 2011, we released a condition report, and this is a product that we do across the sanctuary system to assess the condition of resources, what the stressors are on those resources, as well as what management measures we are taking or could be taking to address those threats and issues, and it's a compilation of the range of scientific research and monitoring that's done by us and many, many other partners, and, in 2011, the condition of the resources really veered towards fair, fair to poor, and, in some cases, poor, and this condition report looks at habitat, living marine resources, water quality, and historical resources.

Since the time of that condition report, there have been many other impacts to our resources in the Florida Keys, back-to-back warm-water mass bleaching events in 2014 and 2015, drought and elevated salinity that impacted the Florida Bay and seagrass, Hurricane Irma, as well now an ongoing coral disease outbreak that is impacting almost the entirety of the Florida reef tract, and so many threats that are more global and regional in nature, and, therefore, we look at what we can do locally to address the resources and promote and enhance the health and resilience of these resources locally, with local action, and then work with our partners on those more global and regional threats, and so these photos show our mooring buoys.

We have an extensive mooring buoy program, providing over 500 mooring buoys for recreational users, both divers and snorkelers and fishing activities, and a lot of coral restoration activity is going on by partners in the sanctuary, and education, both on the water and through our voluntary Blue Star efforts, and research is going on underwater as well.

Why create a blueprint? Why do this effort to develop a draft environmental impact statement for public comment? As I have noted, a healthy Florida Keys is the foundation of a strong economy. Those resources that are within that ecosystem are under stress and putting the future of the Florida Keys at risk, and so, in planning for the future, we have worked with the community and with our advisory council to develop this plan.

We do have an advisory council, and this is a voluntary body, and there are many members of the community. We have forty members of the community that represent a whole host of sectors, and Richard Gomez, who is on your advisory panel, is one of our members, and he represents the charter fishing constituency in the lower Keys, and we also have diving representatives, fishing guides, recreational fishing, commercial fishing, historical resources, research, and education, and so it's a broad brush of the community who participates on this advisory council, and they have really led the charge, early on, to initiate and provide recommendations on this plan and what we need to be looking at in this plan.

These are just the high-level goals that the advisory council set for this process and this review, and they are really twofold. They are improving the biological diversity, restoring and enhancing the natural system, while also facilitating public and private resource use that is compatible with our resource protection goals.

They did this through many meetings, many working groups, and they established three distinct working groups that looked at the spatial aspect, or marine zoning aspect, of our existing management, and these three working groups were really looking at the existing marine zones and how they are working and if they should be modified in any way and if there are additional areas that should be protected through the marine zoning management tool that we have used since 1997.

We have also worked, throughout this process, and continue to work, with a host of partners, state agencies and NOAA agencies and the two fishery councils that have jurisdiction within the waters of the sanctuary and other federal agency partners that we work with in the Florida Keys.

Now I am going to turn to the opportunity for fishery management council consultation, and I have this slide here just by way of background. This is in the National Marine Sanctuaries Act, the purposes and policies of the sanctuary system, and just to highlight a few items of enhancing understanding of ecosystem processes and facilitating compatible human uses in sanctuaries. In the act, we also have a consultation opportunity, and so, any time we designate or do a management plan review, like we are doing right now, we work with the appropriate regional fishery management council to prepare and draft any fishing regulations that may apply within the sanctuary.

Just to point out the third bullet down is that any council action is informed by, and must fulfill, the purposes and policies of the goals and objectives of the designation, and so that is turning back to the goals that the advisory council set for this process and the goals in the National Marine Sanctuaries Act.

What I am going to highlight now are the specific elements, and there's a lot in this restoration blueprint, but the specific elements that are of interest and relevance to the South Atlantic Fishery Management Council, and so, in this restoration blueprint, we do have four alternatives, and, obviously, there is the no action alternative, making no change to our existing boundary regulations and marine zones, and we have a range of three other alternatives. Alternative 3 is our agency-preferred alternative, and this range of alternatives has incrementally more protection for the environment, and, in many cases, the regulations applied do get incrementally more protective and restrictive.

In this plan, there are several components, and so the management plan, as I noted, are the non-regulatory activities, and these are the activities that the sanctuary staff and the partners do on a day-to-day basis, our education program, mooring buoys, research and the like, and you have talked a lot about water quality, and so our partnership with local and regional water quality entities, and that's where those activities really lie. We also have overall boundary expansion, and I will talk about that first, and the sanctuary-wide regulations that apply within the entire sanctuary, and then, finally, the marine zones and specific regulations for those individual marine zones.

Starting with the sanctuary boundaries, our preferred alternative includes two proposed expansions. The bottom there is consistent regulations and expanding the boundary to include areas that are already closed to large vessel traffic, and so, in that area, the blue that is just south of the existing red boundary, is an area referred to as the area to be avoided, and that has been regulated since 1990, prohibiting vessels over fifty meters from entering, and it was originally established due to several large ship groundings in that region, and so to provide further protection for the benthic habitat in that area, and so the proposal is simply to extend our existing boundary, the red line, to a line with that area to be avoided boundary.

Second is a proposal to extend our boundary in the Tortugas region to encompass Tortugas Ecological Reserve South, to provide additional protection for the habitats in that area and the important connectivity of some of the resources and habitats in the Tortugas with the sanctuary-wide, and, in this area, sanctuary-wide, I am only highlighting here some existing sanctuary

regulations that I think will be of interest to the council, and this that, in the general sanctuary, traditional fishing activities are allowed, and we are not proposing to change that, and so, throughout the larger sanctuary boundary, existing traditional fishing activities are allowed.

The text that is there that is underlined is proposed new text for this definition, and it really just further clarifies the traditional fishing activities and gear types and seasons and types of gear, and so no change to what fishing activity is allowed, but just providing a bit of clarification. A second sanctuary-wide regulation that I just wanted to highlight, and there is no change to this, but, in the sanctuary throughout, it's a no-discharge zone. We do allow certain exceptions, and this is an exception that is relevant to the fishing communities, and so we allow an exception to our no-discharge zone to allow discharge of fish, fish parts, chumming material, et cetera, if it's involved in a traditional fishing activity.

That covers the proposed sanctuary boundary, the agency-preferred sanctuary boundary proposal, and a few relevant sanctuary-wide fishing regulations, and now I'm going to highlight the marine zone boundaries and regulations. First, to give context, because I'm not sure how much of the audience, you guys, know about all the different zone types, but we have five different zone types, and they are designated for different purposes and intents, and therefore have different regulations, and I'm going to walk through those individually.

We have existing management areas, and these are the areas that were in place when the sanctuary was designated in 1990, and, on slides that I'm going to show later, I will highlight the Key Largo Existing Management Area in the upper Keys and Looe Key in the lower Keys. There are certain restrictions on fishing activity in those areas. Some fishing is allowed in those areas, and so we'll discuss that later.

Next are sanctuary preservation areas, and these were designated in 1997, primarily to separate conflicting uses, fishing from diving and snorkeling, and, for the most part, these marine zones are no take, with certain exceptions for bait fishing activity, and, in four of these zones, and there are eighteen total, catch-and-release fishing by trolling is allowed, but sanctuary preservation areas, as a whole, are generally no-take areas.

Next, we have conservation areas, and these -- Currently, we have ecological reserves and special use areas, and these are the most protective zone type in the sanctuary presently. They are designed to protect large contiguous habitats, protecting the whole life cycle range of various species. As well, there are smaller zones that are designated to facilitate research. The existing regulations are transit only, unless you have a valid sanctuary permit, and the proposal is to maintain that regulation. These are the most protective and the fewest number of zones in this zone type, and so this is another zone that would be no take, transit only, without a valid permit.

Finally, there are wildlife management areas, and these are generally smaller areas designed to protect shallow-water habitat-dependent species, mostly for birds nesting and roosting, and some juvenile fish habitats, sea turtle nesting beaches, and this is the zone that we have the most. We have twenty-seven existing wildlife management areas, and the image below is an example of one of our no-motor zones.

That picture in 1998 is shortly after this marine zone was designated, and you see a lot of prop scarring on the sea grass there, and then the companion image in 2014 shows, after many years as

a no-motor zones, that the seagrass was able to recover and be restored, and so wildlife management areas are really designed to protect the habitat-dependent species and generally restrict vessel operations, idle speed and no wake and no motor and no entry, and so this zone type is less relevant to the fishing activity. There is very few that would be no entry, which would restrict fishing.

The next series of slides are specific to the -- They compare the status quo, and so our existing marine zones and Alternative 3, which is the agency's preferred, and they show overlapping the areas that either have no fishing, and so no take, or areas that restrict certain fishing activities. The gray is existing, and the blue is our preferred alternative, and so, in the upper Keys -- I will just give you one more point of reference, the white-dotted line is the state boundary.

Just to give you two examples in the upper Keys, and so the zone at the top that's fully blue in the state waters, that is a zone that is proposed new to protect patch reef habitat, and recent research by our state partners identified over 3,000 wild Acroporid species, and so a healthy environment, and there are ESA-listed species there, and so trying to protect the habitat, the full range of habitat, and so that's the proposal there. The zone in the upper Keys that has gray with a little blue expanded, that's Carysfort Reef, and the proposal there is to expand that zone slightly, to capture deep-reef habitat and also a historical spawning aggregation site for black grouper, and that's the proposal there.

In the middle Keys, the changes for fishing activity, this zone in the upper quadrant of that map is Long Key Tennessee Reef, and that is a proposed new zone that overlaps slightly with an existing no-take area, special use area, in the federal waters, and that zone is included to fulfill the advisory council goal to protect large contiguous habitats in each region of the Florida Keys, and this area abuts a state park, and so the shoreline is undeveloped state park property, and a range of habitats and also and important location for transiting lobster from Florida Bay through into the ocean side, and then Looe Key down here is showing restricted fishing activity and a slight expansion of no-taking fishing activity.

In the lower Keys, all of the proposed changes are within state waters, but I will just highlight two areas that may be of interest, and that's here at Western Sambo, which is an existing marine zone that goes from the shoreline out to the reef, and the proposal is to extend that to include deep-reef habitat known to support the lobster life cycle as well as sites of historical fish spawning activity.

The zone here that is hashed has some restricted fishing activity, and that is Western Dry Rock. That is a proposed new zone, and the proposal is to create a zone here in our preferred alternative, and it would allow trolling, fishing by trolling, and the proposal is to protect a multi-fish spawning species site, and there's been research done that shows high numbers of gray snapper, mahogany snapper, yellow fish, goatfish, spadefish, permit, and mutton in that area, and so the proposal is to provide a little bit of additional protections for those fish that are coming to this special place to spawn, and so those are the key proposals in the lower Keys and the Marquesas.

Then this is of less relevance to the South Atlantic, but I just wanted to show, in the Tortugas region, the proposals include an extension to the west of the Tortugas Ecological Reserve. Tortugas Ecological Reserve South has active and healthy spawning activity, and the proposal is to include a little bit more additional habitat area is supporting additional spawning activity, and the diagonal zone that expands from Tortugas Ecological South to what is known as Dry Tortugas

National Park there is a proposed new zone to provide protection for the fish that move between Dry Tortugas National Park to Riley's Hump in the ecological reserve to spawn.

Our state partners, FWC partners, have done a fair bit of research that shows the fish movement in that area during the spawning months, going back and forth to spawn in the south region, and so our proposal provides -- It is intended to provide protection for those fish as they are moving to spawn.

As I noted earlier, with our sanctuary preservation areas, I just wanted to highlight some changes, and so all of our sanctuary preservation areas, the status quo, as I noted, does allow some level of fishing, and, in our proposal to modify that, it would be to eliminate the baitfish permits, and so eliminate issuing baitfish permits to catch baitfish in the sanctuary preservation areas that would make no change to baitfish activity sanctuary-wide, but just in those zones designated as sanctuary preservation areas and eliminate the catch-and-release trolling that is currently allowed in four of the existing zones, and the proposal is to really make the sanctuary preservations all no take, to both enhance the ecosystem as well as to enhance the public's understanding of the regulations of those zones and what I am allowed to do and what I am not and to hopefully enhance compliance and understanding by locals and visitors alike.

Really quickly, I will just touch on our management plan, and so, as I noted, these are our non-regulatory activities, those activities that sanctuary staff and our partners do on a day-to-day basis. Goal 1 is where much of our research activity would be found. Goal 2 is improving the condition of sanctuary resource, and this is where, as you discussed, water quality is a key issue, and so this is where we're working with our partners on the water quality issues, both locally and regionally.

Goal 3 is reducing threats to sanctuary resources, and our mooring buoys are a great management tool to reduce impacts to the benthic habitat from anchor damage. Goal 4 are our education programs, and we have, as one example, a voluntary boater education program, and it's an online program to try and increase boater knowledge and decrease their impact on the ecosystem, and then, finally, Goal 5 is our collaboration with our state partners, with our other agency partners, with the two councils, South Atlantic and Gulf of Mexico, and those types of activities are found there.

Just, real quickly, a summary of our preferred, and it does include an overall boundary expansion, and it includes updates to our sanctuary-wide regulations, to be consistent with state regulations, and 60 percent of the sanctuary is within state waters, and so trying to manage, as consistently as possible, across the waters, and then I talked at length within the Number 3, modify and create new marine zones, and so those are really targeted to protect additional habitat, protect Endangered Species Act-listed corals, facilitate research and restoration of the ecosystem, and also help us facilitate and manage human uses and impacts, and, finally, the updated management plan.

I just want to highlight, on our website, floridakeys.noaa.gov, is the entire plan, and a lot of background can be found there. We also have, and, if we have time, I can do a little demonstration of the interactive map, so users can go in and go to areas of interest and zoom in and look at the zones and read more about the regulations, the purpose and intent of the zones, and it has information about the size of the zones and the like, and so we're trying to provide a lot of information for the public to engage in this process.

This slide shows the range of meetings that we're having with the various fishery partners, and so this includes all the Gulf of Mexico and South Atlantic SSCs and APs that we are meeting with, as well as FWC and then the commission meetings, and there is a one additional advisory panel that is not included on this, but, in November, November 13, we'll be briefing and meeting with the a joint Gulf of Mexico and South Atlantic Spiny Lobster AP, and that will be in the Florida Keys.

We are also doing a fair bit of engagement with the public, and we have just completed a series of public information sessions in the Florida Keys, Key West, Marathon, and Key Largo, and we are about to -- Next Tuesday, we'll have our Sanctuary Advisory Council meeting, where we will spend the bulk of that meeting taking oral public comment, and we'll do that a second time at our December 10 advisory council meeting in Islamorada, and we've also added an oral public comment opportunity on November 6 in Marathon.

We are also doing public information sessions and taking oral public comment in Miami and Fort Myers, noting the interest and individuals who may use the sanctuary from those locations, and our public comment period is open through January 31, and I think that's all. I know that's a lot of information, and I went through it fairly quickly, but I'm happy to take any questions or just be a part of the discussion.

MR. HULL: Thank you, Beth. That was very informative. I think I would just like to go right to the AP with questions and comments and concerns for you.

MR. GOMEZ: Good morning, ladies. Thanks for presenting here this morning. I just want to give you a statement and then a quick question. Even though I do hold on a seat on the Sanctuary Advisory Panel, I also hold a seat with the Key West Charter Boat Association, as well as on the Snapper Grouper Advisory Panel, and so I just want you to know that, for the sake of this meeting, I will be representing my industry, the fishing for-hire, and, in regard to that, I just wanted to start out by asking you this question.

I know that there's a lot of opposition, and I know that a lot of people have been reaching out to you and having private meetings, mostly with Sarah, and I'm thinking that you also have been involved, Beth, but, in regard to that, I know you have seen and heard a lot of opposing views, and, after hearing these opposing views, I see that we are still presenting the same thing, and so I'm imagining that all opposing views have been disregarded, or is that a misconception in my mind?

MS. DIEVENEY: Thank you, Richie. In addition to all the larger, formal public information sessions, we have been doing -- Largely Sarah has been doing other presentations throughout the Florida Keys, as well as we have had various members of the community request personal meetings, and so we're really trying to accommodate that and to engage the community and to help us understand their perspective and their concerns as well as help -- This is a lot of information, and it's complicated, in some cases, and it's a lot to absorb, and so we're trying to help the public understand what is in there, what the process is, and how to engage, and so I would say that we are listening.

Public comments are being submitted on regulations.gov, and we are getting a whole range of public comments, and we are not disregarding those comments that we are receiving and hearing.

The process is that this is a draft out for public comment, and we will receive all of those public comments, and, once that public comment period closes and we complete the consultation with the various agencies and fishery management councils, that is when we take those public comments, and, from that information, we develop a single draft proposal, which would be the draft rule that would go back out for public comment.

At this stage, we are really listening and taking in all of those comments and not modifying the proposal that's out for public comment. That will come at the close of public comment at the end of January. Does that help, Richie?

MR. GOMEZ: Well, somewhat. When you say public comments, I mean, I know for a fact that so many of the fishermen and Keys residents, unfortunately, don't bother to make public comment or written comment, and so, these private meetings that you're having with constituents, are they part of the public comments?

MS. DIEVENEY: They are not officially part of the regulations.gov public comment record, but we are listening and taking that information into consideration, and we will, at our upcoming advisory council meeting -- All the in-person meetings, where we are taking oral comment, we have a stenographer who will be helping us capture that comment, and all of that comment will be officially posted on regulations.gov as well as part of the official comment that we will be responding to.

MR. MOSS: Thank you for this. I'm a south Florida angler from -- Well, technically, I live in Palm Beach, but I spend a lot of time in Broward, and so my first question is, and I know that this is kind of probably late in the game for this, but is there any thought to having public comment or anything in Broward?

The reason I ask is I noticed that you have a Miami-Dade in there, and there's a whole lot of Keys fishermen that live in Broward County that go down there and fish and spend time and money down in the Keys, and, if you know anything about south Florida, Dade and Broward, never the two shall meet, and so, if you've got people in Dade, they're not going to go to Broward, and people in Broward aren't going to go to Dade to make comment, and that's just kind of the way it works, and then I have another comment after that, but I was just curious if there's any way that you could kind of do comment in Broward as well.

MS. DIEVENEY: At present, we do not have plans. I will have to take that comment in consideration to the larger team that's helping to develop that strategy for outreach, and I do -- Oral comment versus written comment on regulations.gov or sending letters into the sanctuary, and they are all taken, and so, if we are not able to do an oral public comment meeting in Broward County, I would love your input and ideas on how we could do a better job of getting word out to the community in these other areas and engage them in different ways, and so I will have to get back to you on any potential additional meetings, but I would welcome your input on how to get this information out more broadly.

MR. MOSS: Thank you for that. I mean, the first thing I would say is that, in a lot of the larger tackle shops in Broward, and even starting with like Bass Pro in Dania, some sort of notice or something like that, and people do actually read that stuff, and, again, at some of the -- I will say

smaller, but they're still pretty large tackle shops, but they would be a good place to start, with some sort of a notice about open for public comment and things like that.

The other comment I will just make, and this is, again, as somebody from south Florida who is technically a Keys angler, and I go down there a lot, and I get what's behind this, and I'm just going to tell you upfront that this is going to make it exceedingly confusing for a recreational angler down there to know where I can fish and what I can fish for and so on and so forth in the different areas.

It already is a little bit, but not quite so bad, those areas that that we know just to stay away from, but it's going to get super confusing, to the point where my concern is that there's going to be people that stay away because it's just not worth it, because there is so many areas that are -- As you had said in the presentation, there are so many different sets of regulations in the different areas, and some you can troll in, and some you can bait fish in, and some you can't fish at all, and so on and so forth, and my concern for the Florida Keys people, in particular, is that it's going to keep a lot of the people from Dade and Broward, and over on the west coast as well, away, just because it's going to get way too confusing.

MS. DIEVENEY: Going through the zones in that way, the proposed changes, and so sanctuary preservation areas and conservation areas, are generally the zones that are no-take, either separating conflicting uses, in the case of sanctuary preservation areas, or transit only, in the case of conservation areas, and so it's primarily those zones that would be -- That would have restrictions on fishing activity, and the proposal is really trying to actually -- While there are new proposed areas, in those areas, it's really trying to be clear about what is allowed and what is not allowed related to fishing, and, primarily, in those two zone types, it would be no fishing. It's actually only a few, Key Largo, which there is no change to the fishing regulations in that zone, and Looe Key and then Western Dry Rocks, which is a proposed new area, proposed as trolling only.

I do welcome those comments about how this can be clear for the community, for the users, and that is one of the intents of some of the changes to regulations, is to make it more consistent and more clear, to enhance understanding and compliance. If we did not meet that goal, we welcome feedback and comments.

MR. MOSS: Thank you, and perhaps I misspoke a little bit. I wasn't speaking necessarily to the variance in the different types of protected areas. I guess I was just speaking to the numbers of now protected areas. Again, as somebody who is not fully vested in let's say the fisheries management, somebody who attends these meetings -- A great number of anglers from, and I will just speak to my area, Dade and Broward and Palm Beach, and they're guys that pay their $15.00, or whatever it is, to get their saltwater license every year, and that's kind of about it.

It's going to get really confusing, as far as where they can and can't fish, overall, and, as we add these areas to the -- As we add these protections to various areas in there, it's -- Like I said, it's just my concern, and I can still do it. I have friends that are captains down in the Keys, and I can figure it out, and it will be all right for me, but, for the vast number of anglers in Dade and Broward and Palm Beach, and over on the west coast as well, I am just concerned that it's going to keep people and money away from the Keys.

MS. DIEVENEY: To that point, if these proposals were to go forward, and if changes were to be made to our marine zones, part of the implementation and next steps are that communication and education component, and so updating the charts with any marine zone changes as well as looking at other more technological and timely ways to get that information out to the public about any changes to marine zones and then making that information available to the public and the user, and we welcome comments on that as well.

MR. HULL: Thank you, David, I'm going to jump in on your thoughts. The economic impact is what you're kind of referring to, that it will keep people away, and did NOAA -- Have they done an impact, an economic impact study, on these affected areas?

MS. DIEVENEY: Yes. As part of the draft environmental impact statement, the analysis includes both the environmental and economic, and so, in the document, there is the economic analysis, and that analysis was done for the area as a whole and not specific marine zones. Our data, the spatial aspect of our data, was not fine enough to do individual marine zones, and so it's done as a whole.

Also, the analysis is as a whole for the fishery, and so not for individual fishermen, and the largest-scale impact, and so assuming that this activity would completely go away from those areas that are potentially new zones versus displacing the fisher activity to other locations, and so there is an analysis in the document, and you can actually find that in Chapter 5 of the document, and then there is a larger companion document for the socioeconomic analysis.

MR. GOMEZ: Can we go back to the sanctuary preservation area in the lower Keys just for a moment, that map? Mainly, I want to look at the Rock Key and Sand Key area a little better.

MS. DIEVENEY: Okay. For that, I can demonstrate the interactive map, and so, on our website, here's where you can find the interactive map, and I will go to our preferred alternative here and zoom in to the area that Richie is speaking of, and so, Richie, are these the areas that you want to talk about, the sanctuary preservation areas that are all within state waters?

MR. GOMEZ: Yes, those are.

MS. DIEVENEY: These are three existing sanctuary preservation areas, and they do not -- In our preferred alternative, they do not change from a spatial aspect. They are -- Additional regulations would be no anchor, to provide additional protections for the benthic habitats, idle speed no wake, and, in the case of Sand Key, this is one of the four existing sanctuary preservation areas where catch-and-release fishing by trolling is allowed, and so, in the proposal, that exception is proposed to be eliminated, and so these three zones would then become fully no take.

MR. GOMEZ: No take no fish, correct? There is no take, but no fishing also?

MS. DIEVENEY: Correct. They currently are no fishing, except they allow bait fishing by permit. You have to have a sanctuary permit, and this zone that I have just clicked on has an exception for catch-and-release fishing by trolling, and so those two exceptions that allow some level of fishing would be eliminated, and so these zones would then be fully no fishing allowed in the proposal.

MR. GOMEZ: Okay, and so, bearing that in mind, we have had more than one discussion on fishing versus diving, and so one thing you said about fishing is, by not permitting us to fish there,

you're going to environmentally enhance the area, meaning it's going to be less impacted by bad water quality and things like that. I would like you to try and explain that to me, but also explain this. Why is that divers can dive there and be dropped in on boats like Sebago Fury and Sunset Watersports, hundreds of people a day, but yet they don't environmentally damage the area, and fishermen trolling across that reef, trying to catch a fish or two to make their customers happy, do environmentally damage that area? I would love to know that explanation. Then I do have one question in regard to the Blue Star Program.

MS. DIEVENEY: These areas have, since 1997, been included in our marine zones as sanctuary preservation areas, largely designed to separate conflicting use. The sanctuary preservation areas were where, through an FWC boater use study, the highest congregation of diving activity, and so, initially, they were designated to separate those conflicting activities, and we also provide mooring buoys, to provide additional protection for the benthic habitats, and that's what the proposed updated no-anchor proposal is also intended to facilitate, is additional protection for the benthic habitat.

Specific to your question about Sand Key, and so this, as you can see in this map, there is a purple boundary, and so, in the proposal, there are three zones, one in the upper Keys, one in the middle Keys, and one in the lower Keys, where we have identified the area to test how we might limit overall use in these areas, and so the proposal includes a proposal to limit diving activity of commercial operators in those areas to those who are Blue Star operators, and the sanctuary has had Blue Star -- It's a voluntary program for dive and snorkel operators.

To become Blue Star operators, they are committed to learning about the regulations, the marine zones, and providing that information and educating their staff and their clients and doing their part to try and become and promote stewardship of the resources, and so that is the proposal there.

There has been a study about the impact of divers on the ecosystem and Blue Star programs, and I don't actually have the date of the study, and I can get it for you, but Blue Star dive programs, at the time, did have fewer impacts to the coral reef ecosystem, and so I don't know if that fully answered your question, Richie. These zones are not designed to address the larger water quality issues. Those activities, as I've noted, would be where we work with our partners, through our management activities, working with the Water Quality Protection Program that is in the Florida Keys and the South Florida Ecosystem Restoration Taskforce more regionally.

MR. GOMEZ: Okay, and so, number one, it didn't answer the question, but let me give you an example before -- As far as the Blue Star thing, basically, what you're saying is that you basically closed off an area of Sand Key that is going to be used strictly by Sebago Fury and Sunset Water Sports, and I believe they're all in the Blue Star program, and then you're going to prohibit recreational divers from fishing there, but I am not here to fight for them. I just wanted to give you a little example of what we're dealing with as fishermen.

We could just move this whole map on up and down the Keys, and every single reef is allowed to be dived on, and many of our close reefs we're not allowed to fish on, and so, when we talk about economic impact, and you just make that whole closure -- That's how you came up with your economic impact, and I say that the charter boat industry sure don't like that answer, because we are economically impacted already with the closures that are already there, and now you're saying that you want to use Western Dry Rocks, and I'm going to get to that later, but now we're going

to lose one more area where we can catch fish, and so economic impact is big, and it's just a very unfair situation that we're encountering, where it's fishermen versus divers.

There are two or three reefs in between Eastern and Sambo and going on further east that we are allowed to fish on, and there have been so many occasions where I will be trolling around, let's just say a buoy, and a dive boat, because of clarity, sees that that area has good clarity, and so, even though we're fishing there and we're trolling around and trying to get our customers a couple of fish, here comes this dive boat, and grabs a mooring buoy and throws his divers in the water, and then, all of a sudden, we're pushed out of there, and we have nowhere to go. The charter boat industry has -- We don't feel that we are being treated unfairly. We are being treated unfairly, and we're just kind of over that whole situation.

MS. DIEVENEY: Sort of to your point there, Richie, we have received feedback, and I don't believe any official comments related to this, but we've received feedback that is aligned with what your comments are here, and recommendations and thoughts on creating areas that are limited to fishing, to be able to do some assessment and understand and comparison of fishing activity versus diving activity and potential impacts to the resources, and so that conversation has been had, and those ideas have been shared with us to better understand the range of potential impacts.

MR. GOMEZ: So, in regard to that, you would certainly go a long way in bringing fishermen and the sanctuary together.

MS. DIEVENEY: I just want to reiterate that these are proposals that we are taking public comment on and ideas and input, and so we're still in that draft phase, where public comment and input is very important.

MR. PASKIEWICZ: Thank you for sharing your restoration blueprint with us, and let me start by saying that I'm all for restoration and protection inside the Florida Keys National Marine Sanctuary. It's my opinion that this approach isn't really big enough, and our focus should really be aimed at addressing larger-scale issues, such as water quality, that may have the benefit across the entire Florida Keys National Marine Sanctuary, rather than adding more area that's off limits or has limited use provision, water quality measurements, through large-scale efforts to change the way runoff is treated and directed. The Everglades and Florida Bay play an integral role in how clean the water is before it passes through the Keys, and we should identify ways to improve their efficacy.

Through education, we can make a push to further inform all user groups on how to best experience our paradise while having a minimal impact on its features, and I know that you have touched on this, and I know that it's a big part of what you're trying to do here, and I appreciate that. I also want to point out that, once these areas are removed from usage, they will not come back once they are restored.

I believe that a balance can be achieved across the Florida Keys National Marine Sanctuary while allowing access to all user groups who live, work, and play in paradise. **This is why, at this time, I would like to make a motion that the AP recommend to the council that we put forth the stance of status quo to the restoration blueprint presented by the Florida Keys National Marine Sanctuary.** Thank you.

MS. BROUWER: Beth, I'm going to have to take control back of the webinar, and so let me go ahead and do that and type the motion in. James, if you wouldn't mind repeating that.

MR. PASKIEWICZ: **I would like to make a motion for the AP to recommend to the South Atlantic Council that we maintain a status quo approach to this topic presented by the Florida Keys National Marine Sanctuary.**

MR. HULL: Okay. **It's to recommend to the South Atlantic Fishery Management Council that we maintain the status quo on the Florida Keys National Marine Sanctuary proposed changes.** Do we have a second on this? Vincent seconds. Let's have some discussion. Does anybody have their hand raised for discussion or comment?

MR. MCKINLEY: I know I'm up in North Carolina, but my first question in doing this would be to the Florida fishermen. Is this going to concentrate and create overfishing in the open areas? That's what my concern is with any sanctuary-protected area, and it would scare me for them to come into North Carolina and do some of these same things, because it would just concentrate and do that, and I think that's a very, very serious concern, and it sounds like it could do that, doesn't it?

MR. FREEMAN: One of the slides showed a number of small blue dots, and it makes me wonder how in the world can you enforce something like that, and it reminds me of something I told a manager one time. Don't make a rule that doesn't make sense. Don't make a rule that you don't intend to enforce, and so how are you going to enforce those areas?

If there is value in making them a sanctuary, then you're going to have to mark the boundaries of where those places are, and those places look like they might have been quarter-mile areas or something, numerous ones, and so you're legal one second, and the next minute you're not, and, depending on how aggressive the law enforcement is, it can be an absolute nightmare and kill the industry down there.

MR. MUNDEN: My question is to Beth. The proposed expansion of the Florida Keys National Marine Sanctuary is 741 square miles. Can you tell us, currently, what is the total size of the sanctuary in square miles?

MS. DIEVENEY: Yes, and so the total size overall currently is 3,803 square miles, and the proposal for the overall sanctuary boundary would expand it to 4,541. If I may just clarify the gentleman before who noted all the little blue dots, I believe referring to areas in the back country, overlapping with our U.S. Fish and Wildlife Service National Wildlife Refuge, and those are generally, yes, quite small, and, generally, they are about a hundred yards out from existing mangrove islands that are proposed in the proposal to provide protection for areas that are shown to support nesting and roosting birds, and so they are quite small, hundred-yard areas, outside of mangrove islands, and, if we were to go forward with any modifications or changes in the management plan, it's looking at marking these areas and providing, where needed providing, additional mooring buoys to facilitate access.

MR. PASKIEWICZ: Just real quickly, as far as the markings go and how you attempt to make this happen, is it a fair assessment to say that there is still signage missing from 2005 and Hurricane Wilma and 2017 and Hurricane Irma? Do we still not have signage of existing closed areas?

MS. DIEVENEY: Correct, and there has been a recent effort, based -- The U.S. Fish and Wildlife Service, in those backcountry wildlife management areas, following Hurricane Irma, they did get supplemental funds, and they have been marking those wildlife management areas in the back country, and the existing zones are generally various vessel restrictions, no motor and idle speed with no wake, and some no entry, for additional protection.

MR. MOSS: I should probably know this, but didn't we vote in -- We were looking at some SMZs down there as well, right, like Western Dry Rocks, and I think there was one or two other places, and was that -- Where are we with that, I guess, and I know I should know, and I'm sorry.

MS. BROUWER: The Western Dry Rocks came up when the council was looking at changes to mutton snapper, but, because that area is in state waters, there was nothing the council could do at the time, and that amendment has been implemented, and it just made some regulatory changes to bag limits and such for mutton snapper.

MR. MOSS: But wasn't there -- I thought there was another one or two SMZs that we were looking at down there, and I could be wrong.

DR. KELLISON: I think it's the Warsaw Hole SMZ.

MR. LORENZ: Beth, this is a question for you. I'm from North Carolina, and I'm one of your 5.5 million visitors to Monroe County and the Keys, and I do it off the normal tourist season, and that's just my preference. A question I had, because it's an area I like, is I believe, on your map, you mentioned that Long Key was going to go into this sanctuary, because it's state property from the key out, and, therefore, would something like that include Long Key State Park? I note that it's -- The Alternative 3 asks for no fishing, and would that include something as innocuous as wade fishing for bonefish?

MS. DIEVENEY: You are correct in that our proposal does include a new proposed zone from the shoreline of Long Key State Park to the deep reefs, and in the proposal, that area is included as a no-take area. The majority of that zone is within state waters, and there's only a portion outside of state waters and in federal fishery management council jurisdiction, but, yes, as a no-take zone, it would prohibit fishing. We have been getting comments from various fishing constituencies, and throughout the process, that that is an area of fishing activity, both lobster as well as some flats fishing activity.

MR. GOMEZ: There is another can of worms there, but I have the map up for Western, and so let's address that for a moment. One of our fears is that, if we lose Western Dry Rocks, the bar there, and your reason would be because fish are spawning in that area, and, if we lost that, then we feel that eventually you will start moving into other spawning areas, and I know that the sanctuary is certainly against fishing the spawn, but, as a fisherman for many years, and, quite frankly, generations before me, we have always fished the spawn, understanding that we need to protect those fish, and that's exactly what we do with the South Atlantic Fisheries, and the charter boat industry is one of the main groups that fight to protect all these fisheries, but let's just talk about what spawns there right now.

We have mutton fish and permit and gray snapper, and so what would happen, if we lost this area, is, basically, we would have to force feed these fish, to make them move out of that area, and we would make sure that they could find us, but, rather than close an area, we have always been more willing to change size limits or change quantity of fish. In fact, the charter boat industry spearheaded -- Well, they were a major part of bringing the limit of mutton snapper down to five fish per person, as well as raising the size limit.

In fact, we were willing to settle for less, and I can't really speak for the charter boat industry as a whole, but I think that we could certainly wrap our hands around less fish, and I understand part of your reasoning to close off the area, besides the spawn, and you think that people are moving into that area during the spawn and taking advantage of the fish, and you're absolutely right, but the responsible ones are not, and it would be a simple task for FWC to go out there on any given night, three or four times during the spawn, and start checking these boats, and, all of a sudden, you would see a whole lot more people obeying the laws rather than breaking them, but, basically, it's a free-for-all out there, because FWC allows it. It's a simple task to go out there and enforce the law. Rather than take the ground from us, let's enforce the law.

MR. BONURA: I just had a question. How much of the Florida Keys Sanctuary is within federal waters versus state waters?

MS. DIEVENEY: With the existing boundary, about 60 percent of the sanctuary is within state waters, and the remainder is within federal waters, and, if I may, just a few more statistics. The total area zoned within these marine zones, 6.25 percent of the sanctuary is currently zoned, and 2.47 of that is within federal waters. Specific to fishing, 5.3 percent is currently zoned as no fishing, and, in the proposal, in federal waters, that is 2.47 percent that is no fishing in federal waters, and so if that helps.

MR. BONURA: Then how much of the expansion would be in federal waters?

MS. DIEVENEY: I don't have that statistic right here, but the additional area -- An expansion from 3,800 square miles to 4,541 and the same amount is within state waters. All of that boundary expansion, except a small bit in the Tortugas, is within federal waters, and so the bulk of that expansion is in federal waters, and that's sanctuary-wide regulations, which does not restrict traditional fishing activity.

MR. GOMEZ: No fishing, no fishing, no fishing, but yet we never hear any no diving. Until we can wrap our hands around that, the lower Keys fishermen will always be against fishing closures.

MR. PASKIEWICZ: Going back to the area of new proposed closure off of Long Key, I believe, in Alternative 3, that area is designated idle speed no wake, and that area encompasses a good portion of Hawks Channel, which is a designated transit area for most larger recreational vessels going from point to point, mainly Miami and Fort Lauderdale to Key West and beyond. How are we, in good faith, supposed to believe that this is something that is enforceable, and how are we, in good faith, supposed to believe that, if something like this is in this proposal, how are we supposed to believe that there isn't more things that are so out of balance inside of there that we're not seeing?

We're also not seeing huge success stories, and we're not being painted a picture of the current SPAs being super prolific in life, with healthy coral, and we're not seeing that presentation here, and so, for us to feel warm and fuzzy about this, where is the success story that we would like to hear that we're supposed to be creating over a period of time?

MS. DIEVENEY: The idle speed and no wake zone in Long Key Tennessee Reef, we have been receiving a lot of comments about that being not needed, and for navigation and safety issues as well, and so we understand that and taking that into consideration. The success stories, yes, in the interest of time for this presentation and showing what is of greatest interest to the council, we did not include a lot of the background and content. Specific to the sanctuary preservation areas, they are small zones intended, really, to separate conflicting use and the impacts inside and outside are quite similar.

Those zones are not large enough to provide those larger protections and effects for the range of habitats and species, and this proposal, in the management plan components, it does include activities to facilitate and really enhance the restoration activities going on, and so we're really looking at how we can more actively, ourselves and with the host of partners, look at the key areas, priority areas, to actively restore and enhance the resources.

The larger marine zones at Western Dry Rocks and in the Tortugas have shown success in habitats as well as species abundance and diversity, and, of course, that is dependent upon the species home range and how they use those places, and so it's not 100 percent across-the-board for species, but we have shown increases in abundance and diversity in those areas, and I can provide links and resources and a lot of the research that we have used and depended on and shown to our advisory council and the working groups that was done by our state FWC partners, and so I can provide that, if it's of interest, after this advisory panel meeting.

MR. PASKIEWICZ: Thank you for your input. I also have another question, and I don't know who to quote specifically, but one of the scientists that did speak at the Marathon meeting basically said that this restoration effort, in these areas that are already protected and the expansion of these areas, it was intended to give a jumpstart, if there ever was another hurricane or coral die-off or any number of environmental effects that are negatively associated with the coral repopulation, which is great, but I'm going to go right back to overall water quality and what comes out of the Everglades and what the runoff is from the mainland and Miami, east coast and west coast of Florida. How can we be comforted that any of this is going to work? I mean, you say that you're working with your partners in water quality, but what does that mean?

MS. DIEVENEY: So, understanding the response and reaction, and really the aim is, through this plan, through this proposal, both the regulatory aspects and non-regulatory aspects, to do what we can locally to restore and enhance resilience to the ecosystem locally while trying to work through those other avenues with South Florida Ecosystem Restoration Taskforce on those more global systemic water quality issues, and that is a non-regulatory action where we have identified the need to enhance our engagement as well as communication of the impact to the Florida Keys of things that happen regionally.

MR. HULL: Thank you, Beth. I'm going to get a couple more here, and then we do have a motion, and I think that we need to vote on this. So Cameron, and then Richard, and then I think we need to go ahead and vote on this.

MR. SEBASTIAN: Just for clarification, a follow-up on what James was asking. How wide of a swath do we go from the shoreline out into open ocean, that area that would be required for a no-wake/idle zone?

MS. DIEVENEY: I think it's about a two-mile wide block, and the total area is 9.5 square miles, and, as I noted, we have gotten a fair bit of comment about that idle speed and no wake proposal being not needed and too restrictive in these larger proposed sanctuary preservation areas.

MR. SEBASTIAN: I would just like to go on the record that I, 1,000 percent, concur with that. That is absolutely ridiculous, and it should be removed, 100 percent.

MR. GOMEZ: Just a closing statement there, and no response necessary, but I'm looking at a little part of your presentation which talks about significant events since 2011, the condition report, and we have drought and elevated salinity, Florida Bay seagrass die-off, sponge die-off, Hurricane Irma, sargassum strandings, cold-water bleaching, warm-water mass bleaching event, coral disease outbreak, and I'm just curious where the fishermen are there and what did they cause.

MR. HULL: Richard, thank you. I think that we have had good discussion on this, and so we're going to have a vote on this motion. Does everybody understand the motion? Do I need to read it again? Okay. We're going to read it again. **The motion is recommend to the South Atlantic Fishery Management Council that we maintain the status quo on the Florida Keys National Marine Sanctuary proposed changes. All those in favor of the motion, raise your right hand, all those opposed, raise your right hand; abstentions. The motion passes with twelve in favor and three abstentions.**

I think it's -- Beth, thank you so much for that. That was a great presentation, and I'm sure that we're going to keep going forward in this process, and we do appreciate you.

MS. DIEVENEY: Thank you very much.

MR. HULL: It's lunchtime, and so we'll be back here at 1:30.

(Whereupon, a recess was taken.)

MR. HULL: Let's get started. Our next item on the agenda is a presentation on the economic performance of the commercial snapper grouper fishery, and this is going to be given by Dr. Christopher Liese of the Southeast Fisheries Science Center. Welcome, and thank you for this, and go ahead.

DR. LIESE: I am in Miami, and so I couldn't make it up there, and so I'm presenting on the economic performance of the South Atlantic snapper grouper fishery. We have been putting together these new series of economic reports for the snapper grouper fishery, the mackerel fishery, and for the Gulf of Mexico reef fish fishery, and I presented this to the council and the SSC prior this year, and they asked me to come back to the AP and present it here, and so these reports are pretty information dense.

They are intended as a reference manual on the economic data, and they don't have that much interpretation, and so what I would like to do today is quickly zoom over the methods, but, again, we've presented that to the SSC already, and I will talk a little bit about the quantitative results for the snapper grouper fishery and then switch over to more interpretative results, because these tech memos are very short on interpretation. They are just sort of reference manuals with numbers, and they especially focus on the role of regulations driving economics. Then I'm going to go a little bit further and estimate what the regulations -- The impact that they actually have, which we'll be doing with a comparative analysis to the Gulf of Mexico reef fish fishery, and that's preliminary research at this point.

On the data and methods, we have had these trip logbooks since 1993 on the Gulf of Mexico reef fish fishery and the South Atlantic snapper grouper fishery and the mackerel fisheries. They collect effort, and they collect landings by area, and we, for all the research, assume that this is close to a census. Since about 2002 in the South Atlantic, we have added an economic question, a section on economic questions, at the bottom. They are asking about trip-level economic data, such as bait expense, fuel used, and crew expenses.

We only ask about 20 percent of the vessels at each year to fill this out, and we randomly select them, and they are supposed to report all the trips for the year, and then we follow that up with an annual cost survey, which is basically trying to get at the fixed costs that are not collected at the trip level, and we send this in the following year, in January, February, and March, and we do ask about their costs holistically, because a lot of the vessels in the snapper grouper and reef fish fisheries are also busy in other fisheries, or even doing charter fishing, and so this data -- From all this data, we try to generate, for the fishery as a whole, and not individual vessels, a sort of financial statement, akin to like public companies' financial statements, cash flows and balance sheets. Those are basically then the basis for what we report in the tech memos.

In the old days, we did this with Excel and a lot of sass, and it took a long time, and so, in the last three years, we tried to build a system with new software, which is the R statistical software, which has some packages called meteR, where they can write the programs, and then they kick it right out into PDFs, and so we built programs where we can select from within this logbook set, linking in other datasets, the exact sort of what we call the segment of interest, say red snapper trips or yellowtail snapper trips, and then we subset them, and they we run some programs, and, in principle, a report for that segment gets generated from all the data, and it took us quite a long while to build it.

The output is always like a standardized six pages of results, and there is the census trip level summary on page 1, the economics for the trip level on page 2, census data for -- When I say census, that's the logbook data for the annual vessel level, annual vessel survey economics, and then two time series perspectives, and so that's all I want to say about the methods.

Then we'll jump to sort of the results for 2016 for the snapper grouper fishery, and so, as I said, we can segment that logbook data any way we want, and we basically count a trip as a snapper grouper trip if it catches one pound of any of the species in the Snapper Grouper FMP, and that's what we call the snapper grouper SOI, or the mother SOI, because every other snapper grouper subset SOI would be a subset of that, and so, in the tech memo, there is a total of eleven SOIs, and most of them are by species or species group, and what we found is that, obviously, each of these are a different subset, but, qualitatively, the general results pretty much are the same, regardless of

which of these subsets you look to, if you look at that list of economic results. For the rest of the presentation, I will only be talking about the Snapper Grouper FMP and the mother SOI.

The first set of results are the trip-level summary, and so this is really just a summary of the logbook data, and so you can see, in 2016, there were 11,000 trips that qualified as South Atlantic snapper grouper trips with a one-pound definition. Those were conducted by about 509 vessels, and you can see they harvested, on those trips, about just under $19 million of seafood revenue, and we estimate that using dealer reports, in conjunction with the landings on the logbook data, and we see that about $17 million of that was snapper grouper species, and so the fishery generally is pretty specialized, on a trip basis, on snapper grouper, as you can see in the bottom-left of that diagram. There is more information, but I'm just pulling out some selected results.

For those results, among these 11,000 trips, we have economic data for 2,600 of those trips, and so, in our trip-level economic section, we provide summary statistics for that, and the means of these numbers would be the best predictors for what the fuel costs are on one of these 11,000 trips, and we have confidence intervals there, and you can see that cash flow at a trip level and then trip net revenue, and we have some further economic results. For instance, we have productivity measures, where we show that, in the industry, they are basically landing -- Again, this is on average across all the vessels that are reported, and about 6.8 pounds of fish are landed for each gallon burned, or the hired crew wage, we estimate, is about $247 per day.

We also have trip-level economics in a time series context, because, each year, the economics are a sample. There is always going to be some sampling variation, and so, in order to compare them across years, we decided that it was best to show it in percentage terms, and so you have the costs for each of these trips in percentage of revenue terms, and then, currently, we have three years of data, but, as time goes by, we'll add 2017, 2018, and 2019, and so on, and then we draw an average, and so I always recommend to analysts to use the three-year average, because it just gets rid of a lot of variation.

After that, we have the annual vessel-level summary, and so this is similar to what we had at the trip-level summary, and it's still those 509 vessels that are doing snapper grouper fishing, and it's their 11,000 snapper grouper trips, but then they also do, in our database, another roughly 4,000 trips that are not snapper grouper trips, and so probably most of those will be mackerel trips, and so, if we want to look at economics holistically, we need to account for everything that these vessels are doing, and so, on average -- Not on average, but, in total, these vessels are generating $23 million of coastal logbook seafood, and about 73 percent of that is snapper grouper, and so it's still pretty specialized.

At the vessel level, we bring in some permit information and some vessel characteristics, and so that's all in the technical memorandum. Then, from those 500 vessels, we have annual economic surveys for about ninety-four of those, and, again, we provide economic summary statistics, which are best estimators, and they're based on a statistical method, because of the sampling process, and we have confidence intervals, and we have the cash flow and net revenue of the operation overall. Obviously, we have to estimate some of the variables that are incomplete or that we don't have, such as owner-operator or captain-owner time, to make hired-captain vessels and owner-operated vessels comparable, and so there is some estimation going on beyond this.

Then that was the year 2006, and we see that the net revenue of operations is very close to breaking even to zero. Then we have some other statistics, but, again, I will switch to the time series, where we do all the measures in percentage terms of revenue for the over year for the different years, and then we draw the average, and so, over the 2014 to 2016 average, the net revenue from operations in the snapper grouper fishery was about 4.5 percent of revenue.

In summary, the snapper grouper fishery is about five-million pounds of landings of snapper grouper species, for a revenue of about $17.5 million. A quarter of that revenue is spent on fuel and supplies, and almost 40 percent on hired labor, both on the owner's estimated time and hired labor, and so arm's-length transactions. About a quarter is spent on vessel repair and maintenance and insurance and overhead. About 6 percent, 5.8 percent, we estimate is depreciation on the vessels, for that net revenue of operations of 4.5 percent.

Now, if we add an opportunity cost of the capital invested, we estimate that capital is about $40 million, and that ends up with I think like a 4 percent opportunity cost and about 4.5 percent of revenue, and so we have a resource rent of about zero percent, which basically just means that this fishery is breaking even, in economic terms, and this is on average for 2014 through 2016, and so individual vessels, obviously, might be making a lot of money or losing a lot of money, but this is just on average for all the reported vessels.

To interpret this number a little bit, when you have -- Down here, when you have the rent in any normal, competitive market, you would expect it to be about zero, because, if you had gas stations or barbershops, you would want all the costs to be accounted for. The opportunity cost of capital is the return on investment, basically, and you would expect the market to dissipate all rents, which is a good thing, because, if you saw a large number down here, it would probably be a monopoly or a cartel or some other market failure, but, in the world of natural resource economics, renewable resources are an exception, because they basically -- We would like to have a resource rent, because it's what we economists call -- A renewable resource is a gift of nature that should go above and beyond the cost of harvesting it, and so, as an example, if you were hiking through the forest and you came across a bush full of berries, you could eat them and then move on, and you would just be better off, and there is no cost of that. You would just be plain better off if there was a bush.

The open-access regulation, and the regulated open-access, the market economy dissipates any type of rent, which is a negative aspect of markets, in this setting, and so, in order to sort of give an idea of what is being lost, because you can see that, Scott Crosson and me have basically started this research where we wanted to do a comparative analysis of what a fishery without -- Where you would get -- What a regulated, open-access fishery without resource rent would look like compared to a fishery where we do have a resource rent, and the nice thing is, in our database, we also have the Gulf of Mexico reef fish fishery, and the Gulf of Mexico reef fish fishery is a very similar fishery, in many ways.

It's similar species and similar markets, and so there's a lot of -- Like the labor markets and the product markets are quite intertwined, and they are the same latitudes, and vessels and gears are pretty similar, but they are different in one critical way, which is that, in the reef fish fishery, it has gone to what we would call a rationalized management, or basically a catch share program, and it's been in that system for now roughly ten years, depending on the component, and so, when we

put those two numbers next to each other, you can see that it looks very different from an economic standpoint.

The landings on the Gulf reef fish fishery is about $15 million pounds, and so the fishery is really about three-times as large compared to the South Atlantic snapper grouper fishery, and they generate about $61 million, versus the $17 million, but, if you look at the cross-structure, you see it's very different, and they spend substantially less in fuel and supplies, only 17 percent, and they spend less on labor, in proportional terms, and they spend less on labor, and they spend a lot less on vessel repair and maintenance and insurance and overhead, and less on depreciation, for a net revenue of almost a third of revenue, and so they are generating a lot of net revenue.

If we add the opportunity costs of capital, we're left with about 31 percent resource rent, which translates, in 2016, to about $19 million, and so that is -- They are basically really printing money over there, and I should be clear that that accrues not to the vessel operators, but to the owners of the IFQ shares, and so there is obviously -- I am not here to -- I want to compare this, to see what resource rent might be possible, and it's not necessarily a direct endorsement of IFQ, because, in order to give those shares -- That $19 million is what accrues on probably an annual basis, but, when the shares were given to the shareholders, they basically received all these flows of $19 million for the future years, and so the value that they were given when the IFQ was instituted was probably more on the order of $200 million of value transferred to them.

Again, from an economic point, they are generating very high profits, and, while it's very nice for them, it's also very good for society, because it basically means that they are harvested all these fish while using up less resources, like fuel and labor and vessel material. It's just a more efficient production.

Take a look a little bit more at where exactly does this inefficiency in the South Atlantic snapper grouper fishery come, to understand it more and characterize it, and we added a couple more slides here, and so, if you look -- Again, the fishery landings are about three-times as much, and so the ratio, if I norm this to one, we can see that the price in the South Atlantic is lower. It's about eighty-cents on the dollar per pound in the South Atlantic, and this might be because there is no red snapper, or it might be other reasons, and I'm not exactly sure.

Now, vessels are almost the same number, and so that means, on a pound-adjusted basis, the South Atlantic has about almost three-times more vessels, and it has even more trips, almost five-times as many trips, but, if you look at crew days, it's only about 1.3-times as many crew days, and so, clearly, there is something going on.

If we compare the trip, right away we see that, in the South Atlantic, trips are about less than two days long. In the reef fish fishery in the Gulf, they are over four days. In the Gulf, they take an extra crew member, and, not surprisingly, they land over 2,000 pounds, on average, per trip. In the South Atlantic, it's just under 500 pounds.

In terms of productivity, if you look at fuel landings per gallon, the South Atlantic uses about -- Lands about seven pounds per gallon of fuel used. In the Gulf, they land about eleven pounds per gallon of fuel used, which means that the South Atlantic uses about 70 percent more fuel, and now landings per crew day is much less different, and so the inefficiency is on fuel use and not on crew days, and so why are there so many trips in the South Atlantic?

This graph is one for the Gulf and one for the South Atlantic, and each dot is a trip during the year, 2016, and, on the X-axis, we have the total revenue from vermilion snapper, and, on the Y-axis, we have percentage of revenue that vermilion was on that trip, and so you see the Gulf is a fairly natural cloud of dots. This sort of longish line that drops down here are probably the longliners, who are catching much higher volumes of fish on each trip, but you can see that vermilion is always a smaller portion, usually around 25 percent of those trips, and it's all spread out, but most of the vermilion is always co-caught with other species in the fishery.

Now, if we look at the South Atlantic vermilion snapper fishery, you can see that there are these aggregations of dots, these thresholds in the data, and it doesn't look like a natural cloud, and so you wonder why. Well, the South Atlantic vermilion fishery is regulated with trip limits, and these trip limits are changed from about 1,000 pounds at the beginning of the quota, and then, at 75 percent used, they drop down to 500 pounds.

At a price of about $3.80 during 2016, that explains exactly these lines, and so, if you harvested about 1,000 pounds of vermilion, you would be in this line. If you have 500 pounds, you would be here, and so another subtle difference -- So it's the trip limits that are forcing people to take much shorter trips. A little bit more subtle difference, but also very important is, if you look at this graph, you can see that these points are much higher, and so these trips are here, and they are catching about 75 percent to 100 percent vermilion on those trips, and so you don't have many trips in the Gulf that is so concentrated on vermilion and so that foreshadows -- Are they really that much better at targeting vermilion, or are they discarding a lot, and that brings me to why there are so many vessels, and it's because this is the landings, the effects of the seasons, and the quota closures.

Again, this is 2016, and the vermilion snapper has a split season that opens in January, and then the other half opens in July, and it opens with a 1,000-pound trip limit and then goes to 600, and so it gets fished out pretty quickly, but the gag, scamp, and shallow-water seasons are still closed, and so, presumably, anything that is co-caught of this type is being discarded over here, and that might be showing up in that previous graph.

Then, in April, the vermilion fishery closes, and only in May does the shallow-water and scamp and gag fisheries open up, but, at this point, the vermilion is closed, and so we have to presume that vermilion is being discarded. Similarly, the deepwater species, they open up early in January, and so they get fished down, and there is less of them during the rest of the year, and so each of these is a little race to fish, and so there's 500 vessels to sort of pick up the fish when the season opens.

Another big thing that we economists would be worried about is this type of deepwater species being supplied in the first three months of the year would lead to sort of a price effect, and so maybe would be getting lower prices. I looked at it, and I did not find that much. For vermilion snapper, which I was hoping to see, I really did not find any, and we need to do more careful research on this, but, to just give you an idea of what we would be worried about, for the golden tilefish, I do think that it shows up a little bit, and so it looks that, for the years 2013 to 2016, the prices for golden tilefish ranged around $3.00 to $3.50 in January, February, and March, which is when the high percentage of landings happen, and then it goes up to over $4.00 for most of the rest of year, when less is coming in, and so we saw a lot of this price effect with red snapper in the

Gulf of Mexico when they went to the IFQ, and we don't really know right now how much of this exists in the South Atlantic.

Similarly, because of those seasons and closures, you have longliners in the South Atlantic, and they fish in the beginning of the year, and then they're probably dormant. In the Gulf, they are working all year long, similar by the year, and so, obviously, if you have gear that you use for only a couple of months of the year, that's fairly inefficient, and so basically idle capital, which raises your costs.

Clearly the management is having a big effect on the way this fishery is run by the fishermen, and so we can ask what do we think we might be losing in the South Atlantic, through basically the approach of quotas, closures, and trip limits, and, to do this, I basically generated two scenarios, and, again, it's comparative. It's there to illustrate and give a general impression, ballpark estimates, and this is not going to be down to the dollar, and so I have rounded to the nearest hundred-thousand.

In Scenario A, the idea is that, okay, here is the current South Atlantic shrimp fishery, but let's assume that fishermen in the South Atlantic produce at the same sort of cost structure that the fishermen in the Gulf of Mexico are doing, and so that's Scenario A. Then Scenario B basically does the same thing, but then it also assumes that prices would go up, as they did for the red snapper in the Gulf of Mexico when it went to IFQ, and so this is leading -- We calculate how much they would be spending on fuel and supplies under the new cost structure and what the resource rent would be at the end that's generated, and, back here, I show the changes, and so it basically means that, if the fishermen of the South Atlantic were as efficient in fuel use as in the Gulf of Mexico, they would be probably saving, collectively, about $900,000, about $1 million, on less fuel. That translates, probably, into about 300,000 gallons of less fuel would be used.

If you look at the labor, it shows up that they would only save about a quarter-million and so they are not particularly inefficient in labor compared to the Gulf. There might be a little less labor, but not a major change. Now, when you look at vessel-related things, there would be substantial cost savings possible, in terms of probably roughly $2 million across overhead vessel repairs and depreciation and the opportunity costs of capital, and so that would be -- Again, if you're running a fishery that is a third the size with the same number of vessels, there is probably a whole bit of consolidation that could happen and save on these costs.

Something that I didn't mention is, obviously, the fuel costs and the labor costs would show up in the short-term. These vessel-related things would probably only occur in the longer-term sort of changes, and then, finally, like I said, and this is the most tenuous sort of estimate here, is that we don't know what prices would do, and we don't have enough careful analysis, and it would be out of sample, but, tentatively, they would probably also benefit from more sort of -- For fishermen fishing to market, rather than fishing within the regulations, and it could lead to a stable supply for restaurants and wholesalers and dealers, and it could lead to a price increase, and so there could be some there.

In summary, in the South Atlantic fishery, there is a lot of reactive management, the limited entry and the species quotas and closures and the season trip limits, and they seem to very much -- We see it drive the behavior, and, hence, the economic outcomes, and roughly we can say that this type of management, with its own advantages, has all the disadvantage that is probably dissipating

about $3 to $6 million of annual resource rent, and it's probably by using twice as many vessels and associated gears as necessary for the fishery, using 300,000 more gallons of fuel and shorter, inefficient trips.

There may be 20 percent too much labor, and we don't know. They are probably getting a little less of a price of fish than they could, and we don't know how big the magnitude is there, and then this is pure speculation on my part, but it looks to me like there is probably a lot of discarding going on, and, so, when say $3 to $6 million of resource rent lost, that's assuming that the biology is not affected, but, if there's a lot of discarding going on, it's quite possible that, if that was somehow cut down, then the biology would also improve, leading to a higher harvest level, and so that is not captured here. Again, that's just the economic perspective and to give you an idea of what the economics of this fishery look like, and I think that's it. Thank you.

MR. HULL: Wow. Questions or comments or concerns?

MS. MARHEFKA: Chris, I'm an AP member and a snapper grouper commercial vessel owner and wholesale dealer and former biologist. At some point, I really would love to go more into depth, and this won't be the place for it, but about the assumptions you've made. I have some concerns, or not necessarily concerns, but I would love to sort of go through each assumption, especially as they relate to how you sort of compare our fishery to the one in the Gulf, some of those assumptions you made, because there might be some things there that you might be missing, but maybe not, and so, at some point, I would like to do that.

A couple of them I caught really quickly was that, when you talked about the tilefish longline boats sort of being dormant for the year after the longline quota was caught up, at least for the ones that I know, that's not true. They are going out, and they are operating in the wreckfish fishery after, and other fisheries as well, and so just so you know that that's not necessarily accurate.

For myself, and the way we operate our wholesale business and our commercial fishing vessel, the trip limits are not what are driving our shorter trips now. A lot of us have adapted to selling our own catch, and we've created markets where we are driven by what our restaurants need and when our restaurants need them, and, for that reason, it no longer makes sense for us to do seven to ten-day trips.

Obviously, there is an element of it doesn't make sense to do a seven to ten-day trip when you have say 500 pounds of vermilion snapper, but, the way we've adapted, and the way it's sort of become symbiotic, actually, is in a good way, and we're coming in, and we're moving our catch, and we're making shorter trips, because the market needs our fish back.

The other thing that I wanted to just talk about was the concept at the end, where you say there would be consolidation, and, therefore, consolidation meant that we were a more efficient fishery, and, well, I understand that economists think in a manner where that is a positive statement, consolidation of boats that are fishing and actively making a livelihood and those people no longer being able to make a livelihood, and that might be efficient on paper, but that's not efficient from a social standpoint, and it's not necessarily efficient from a biological standpoint, because the biology hasn't changed, and it's certainly not efficient from the standpoint of many generations of families that have been doing this for a long time, and so I have lots of questions about the

assumptions, and maybe sometime you and I could talk on the phone or exchange emails over it, but thank you for your time. It was very informative.

DR. LIESE: Thanks for those comments. That's great to hear, and let me just briefly sort of respond, which is, really, because it's comparative, there is no real assumptions underlying, and I tried to prorate those things that can be prorated, like the South Atlantic does more for-hire fishing than the Gulf of Mexico, the fleet there, and so, obviously, some of the capital needs to be prorated to for-hire fishing and not the snapper grouper, and so I tried everything that you could compare to bring on the same denominator, but, beyond that, there's really no further assumptions.

It's just a comparison, and so, if you think that the fisheries are inherently different, and there are some differences. The Gulf has this focus, with the red snapper and the red grouper being really the two driving, big species among all the others, and, in the South Atlantic, it's much more spread out across all the different species. There are differences, and so it's not an exact sort of science. It's more generally the feeling that they are generally comparable, and this would be the thought experiment of what the regulation might be leading to losses.

Now, the wreckfish that you mentioned is a big problem, and I totally agree, and wreckfish -- I should have said that upfront. Strictly speaking, it's part of the fishery management plan, and it should be part of this analysis. The problem is that it's in a totally different dataset on our end here at the Fisheries Science Center, and so it's not integrated. The data that's collected is different, and it's, I think, on paper partly, and so it's just that -- It's something that we need to add in the future, and that could change. As you said, there's very few wreckfish participants, and so it's probably not going to -- But it's something that we need to include, and so thanks for mentioning that.

Then I found it very interesting what you were saying about the smaller trip to push as needed for your own restaurants, which I guess means fishing to your consumers, which would be the most efficient thing, and then, in terms of inefficiency, most of it is not -- It's not in labor, and so that was an interesting result, I thought, is that labor seems to be used fairly efficiently, or pretty close, and so most of it is just more fuel used and more vessel capital being used, and so, obviously, those also, to a certain degree, represent jobs, such as at marinas and the like, but they are also just lost money.

I mean, right there, they're just -- These inputs are burnt up, or used up, and they could have been used for other things. If you don't have to spend that, you're making more profits, and you have the up-side, but the consolidation would refer to the vessels and not necessarily -- I mean, again, "consolidation" is the wrong word, and that assumes you went there, but I'm just saying that the South Atlantic is working with more vessels than would be, strictly speaking, needed to fish that amount of fish. If you want to contact me, I'm happy to give you more information. Thank you.

MR. COX: That was a very good presentation, and it makes a little bit of sense, and there's no doubt about it. I know that, in my area, that we have lost a lot of our traditional boats and moved into more of the outboard fishery that consumes a lot more energy in their day trips in the snapper grouper fishery. They will burn as much gas in a day as our extended day boats will do in a trip, and so looking at that makes a lot of sense, what I was seeing here in the presentation, and it would be interesting to see what the fishery looks like over there, in terms of the fuel burned per trip and what we have, because so many of our boats now are moving into the dayboat fishery, and the

outboards are pretty much -- I mean, I don't know, but I would probably say that we're probably 60 percent outboards in the fishery now, in the snapper grouper, versus the traditional bandit boat fishery.

MR. HULL: Thank you, Jack.

MR. MCKINLEY: It was a good presentation. Some of the things that I thought about that I jotted down when I was listening to it is the fish population, the habitat, could be completely different, and I don't know that much about it, but things like that could impact it so much, and it would make it better.

For us, it's weather. I mean, how many times do we have to cut trips short because of weather, and I know that the Gulf has a lot more fishing days, I'm sure, and so the weather is what dictates us. I mean, I would go along with what she said, but the weather is mostly for us. I mean, a lot of times, all we have is a one or two-day trip, and then I just -- It said there was an equal amount of boats, 500 or whatever, for each fishery, and I would just question how many of the -- I would like to see how many of the boats caught 90 percent of the catch down there, and you see all these things about these large catches on some of those big red snapper boats, and I would disagree that there is a lot of high discards, and I don't see that in our industry, or on our boats. I just don't see that. We do the things that we need to do not to have the high discards.

MR. PASKIEWICZ: I would also like to comment a little bit on what Kerry said about the driving forces about getting the fish to market. I know, in the Keys, a lot of yellowtail snapper fishermen have adopted a dayboat-type situation as well, where we cover twenty miles over the course of the day, and you want to -- Those boats are coming in and unloading their catch at their wholesale dealer on a daily basis. We, as dealers, have time to get those out and give our restaurants and our fish cutters time to work with that product, while it's still extremely fresh and viable.

We choose, or the day fishermen, we choose to spend -- Over those four days, we choose to spend three nights at home with our family, and we -- It's a tradeoff for us to maybe burn a little bit more fuel and save a little bit more time, on a daily basis, so that we can be members of a family and actually participate in raising our kids and doing the things that may be a hidden value inside of a survey, or a study, such as this.

I think that there's more of a dynamic here than just numbers in the South Atlantic, with the smaller boats and the number of trips being made. I think, if you went four-to-one, and so eighty miles over four trips for a day yellowtail boat, and you stack that against eighty miles on a trip boat over four days, and you kind of evaluate the tradeoffs, you may not see the economic loss, like you do on paper.

DR. LIESE: Thanks for those comments. That's a different perspective, an important one.

MR. HULL: Anyone else have questions or comments or concerns?

MR. LORENZ: I'm a recreational fisherman, but I do spend a lot of time thinking about business, and I do volunteer with the University of North Carolina on business issues, thinking through things to make small entrepreneurs successful, and so I find this interesting, that the margin here

is so small, four-and-a-half percent, and it's almost like a supermarket, for all the effort you all go through.

I guess what this presentation gave everybody here, and I'm really talking to the advisory panel, was gave you the problems, or potential problems, that your margins may be quite thin, and you might be working quite hard for the money you're getting, and there's only two ways to do that. You've got to increase the revenue for what you're getting or you have to decrease your cost, and this gave a few indications of where your costs may be a little higher, but not ways to increase your revenue.

I looked in that presentation, and it looks like, well, what could be done, and is there a way to flatten out the catches on a monthly basis, so the price at the dock is higher and the price -- You get more. Is there a need for marketing of wild-caught seafood, the seafood you catch on a fresh basis locally, and how would that be done, and that might be supported by local agricultural groups, state agricultural groups, and that sort of thing.

Obviously, embedded in this, is catch shares, I guess, can work to even it out, so, on an individual basis, you can decide what to do, but it's interesting to me that -- Some of you may want to look at this, and I certainly don't know the answer, but you seem to have a need to get your price for each fish up there, no matter how that's done, and I don't know. You have foreign competition that impacts more on the east coast, and how do you deal with that? You have an administration that is very friendly towards tariffs, and do you want to start suggesting something like that? Those were some of my thoughts, just looking at it on if I was investing for business and money, that I wanted to share.

MR. HULL: Thank you for that, Bob, and there's been some good comments, and I agree with all of it. Basically, this is on the commercial fishermen, and we're food producers, much like farmers. We don't get treated like farmers, but we're food producers, and, oftentimes, farmers, food producers, work on losses and very small profit margins and things like that, but we're providing food to the market, and then that extends into the economy further down the line, but there is a lot of great information here, and, as Bob stated, there may be ways that we can improve -- Obviously, there is ways that we can improve what we're doing, and we have to have this type of information to make those decisions, and so thank you very much, Dr. Liese.

DR. LIESE: Thanks for having me.

MS. BROUWER: Are you there, Brett?

MR. PIERCE: Yes, I'm here.

MS. BROUWER: I will be doing the slides for you, and so let me get us going here. All right, take it away.

MR. PIERCE: First of all, thanks for having me. My name is Brett Pierce, and I am the lead on commercial electronic logbook development here at the Southeast Fisheries Science Center in Miami. To start, I would like to take some time and just discuss how we use commercial logbooks in the Southeast, and then I will hopefully provide a little bit of context into what we plan on doing

with the electronic logbooks and how we're going to implement it, and then I would like to give an update on our electronic logbook progress and then take some questions at the end.

At its core, logbook use at the Southeast Fisheries Science Center is a valuable tool that collects data that is not necessarily collected from any of our other reporting sources, whether that be observer data, trip ticket data, or landings data. Primarily, we use landings data to monitor quota, but it doesn't contain a lot of the useful catch and effort data that our logbooks contain. Current Southeast commercial logbooks are self-reported catch and effort data, as many of you know, that provides more detailed information than the dealer-reported trip ticket data, including the ability to capture more than one fishing area, as well as finer spatial data and more detailed gear data.

The observer data does capture a lot of the same information as our commercial logbooks, but the fleet coverage is lacking, both with respect to the spatial distribution of the observer program as well as the number of vessels that participate or that have observers on them. The types of data that are collected in our commercial logbooks are catch and effort data, spatial data, and, for the way the logbook is set up now, we can actually get some kind of landings data from commercial logbooks. In addition to this, we can use some of our other reporting sources, such as observers, trip tickets, and landings, to help validate commercial logbooks, but, essentially, logbook use right now collects a lot more detailed catch and effort and spatial data than any of our other reporting sources.

What do we use logbook data for in the Southeast? Well, it goes into quite a few data sources that are used to produce reports for SEDAR. We can use them for calculating indices of abundance, and, primarily within those indices, we calculate CPUE. We can take CPUE and combine that with other data reporting sources, such as discards, which can come from observer landings or fisher-reported discard logbooks. When we apply the CPUE to that data, we can use it to estimate total discards, fishery-wide.

For landings data, many times, the landings data comes in unclassified, such as unclassified grouper or unclassified snappers. By looking at logbook data, we can produce a species composition for the same time period and get an idea of what the general landings were for those unclassified species, such as snapper or grouper, and then proportion that backwards to get an idea of the same thing for commercial landings.

I listened in on Christopher's presentation, and so a lot of this is a little bit repetitive, and so I apologize for that, but I do want to kind of go through the history of the logbooks. We began using commercial logbooks around 1986, with the pelagic longlines. The Gulf of Mexico and South Atlantic implemented commercial logbooks in 1990 and 1992, respectively, and it then migrated to federally-managed shark species in 1993, and our most recent major implementation was the king and Spanish mackerel in 1998.

Through all of these implementations, we have actually changed the specific questions asked within a logbook, and, as you heard Christopher say, for example, we added economic data, in around 2002, to our logbooks, and we have also changed the way that fishing area is collected, as well as what specific questions are asked, and we actually have added more specific gear questions to each of these logbooks.

With all of these changes, there is a need for finer spatial resolution with catch and effort data that includes fewer errors and that also improves inputs into things like single-species stock assessments and multispecies fisheries and fisher-choice models as well as improving economic models. With this expansion in quality and quantity of data, we feel that there's going to be a lot more information that will provide more management approaches. The type of data that we expect to be requesting within electronic logbooks will help actually improve assessments and improve management options, such as ecosystem-based management approaches.

The current logbooks are limited in providing this type of data that we feel we need. Pelagic logbooks, as some of you may know, require multiple sheets to collect data at a set level, and coastal fisheries only collect data at a trip level. An electronic form will reduce entry errors, by allowing only valid entries, and this is based on look-up tables that use a standard system that we have developed in collaboration with ACCSP. Ultimately, we feel that the use of electronic logbook reporting will be timelier and contain fewer errors especially in those machine-generated variables, such as date, time, and location.

Where are with the implementation of electronic logbooks? Well, the largest issue that we've had when developing the Southeast e-log is building a robust and complete database to house all of these expanded variables that go beyond what our current logbook is collecting. We have worked diligently with our partners at ACCSP and greatly expanded their underlying database to include all of these required data elements, and a lot of this was developed from the pilot that we ran around 2013. We worked with fishermen to kind of get an idea of some of the variables that need to be included, in addition to what we collect on our logbooks right now, and we've been working with ACCSP to expand their database.

All of this infrastructure work is where the majority of our efforts have been placed, and, within this infrastructure work, we've done a lot of work reconciling our database with ACCSP's database. To give you an example of what some of this reconciliation work looks like, currently, ACCSP asks, on their electronic form, the port, location. Some partners interpret that as the port departure, and others may interpret that as the ending port. Within our electronic logbook standards, we're actually going to ask for three relevant ports for any given trip, and that's the port of departure, the end port, and the offload port for any catch that was flagged for sale.

This is just one example of the many variables that we have gone through and had to get ACCSP to take a look at. Now, if there is a major change that needs to happen, it has to go through their standard code procedure. A lot of our variables are in that process right now, ports being one of them. We're also looking at expanding some of our gear data elements for specific gears, and all of this takes time, and all of this has to go through a process, where all partners have to sign off, and, until this database is fully reconciled, a technical requirements document for third-party vendors cannot be completed. We have gone as far as we can here at the Southeast Fisheries Science Center with the info that we have before we can move on to the next stage and implement -- And begin working on specific apps for the electronic logbook.

There is a couple of other areas where we need to work before we're ready to fully implement this program. In addition to all that database infrastructure work that I mentioned previously, we need to set up the procedures by which electronic logbooks and electronic no-fishing reports count toward fisher compliance once they are submitted. This involves us creating and linking SAFIS participant IDs with their corresponding SERO ID, SERO entity ID, within the Regional Office.

This SERO ID is, of course, linked toward compliance, and so, essentially, what will happen is, if a fisher were to submit a logbook or a negative-fishing report through SAFIS, then we would have the infrastructure in place to have that count toward compliance. We do have a version of the no-fishing report up and running right now, where fishermen in the Southeast can submit through our no fishing electronic reporting system and have it count toward compliance, within about fifteen minutes, once they submit that logbook, or that no-fishing logbook.

The next step, after we link all of these participants, would be to use SAFIS's negative-fishing tool and have fishermen submit through that platform, so that it can go through the infrastructure process and count toward compliance. Because most of our positive-fishing and electronic logbook reports will be submitted to SAFIS, we have to make sure that that infrastructure process works as seamlessly as the Southeast Fisheries Science Center's no-fishing report. Once we have developed a proof of concept, then it will not be a large undertaking to link electronic logbook reports to compliance at SERO.

Finally, I just want to mention that, with all the legal requirements for submitting logbooks right now, that ACCSP participant ID will count as your digital signature for submitting electronic logbooks, and so there are a few privacy and things we have to work out with the legal office, just to make sure that anything submitted goes through the same regulations that have been set up for our current paper logbooks. Now I will take questions.

MR. COX: Well, we are certainly ready to do some of this stuff and get rid of the paper logbooks, and it's been a long time coming, and it's taking a while to get there. The correspondence with the Southeast Fisheries Science Center, with the logbook program, is -- I got a report back the other day, and it said you have mismarked your grouper fishing as trolling. Well, you know, we were on a king mackerel trip, and we caught several groupers while we were trolling with our downrigger stuff, and it took several months to get the interaction back, to where I had to send it back and explain it to them, and so, in a program like this, how will the interaction between the fishermen and the people taking the data be done?

MR. PIERCE: There are some instances, and I think the one you just described will kind of fall into that, where we are going to have to have some of back-and-forth between the people validating the data and the fishermen that report the data. For the most part, one of the biggest advantages with electronic logbooks is it will allow fishermen to only submit valid entries, and so, right now, there is a possibility of submitting any number of invalid entries. For example, the county could be spelled wrong, or they could leave off a complete variable within a logbook, and that does take a long time to process.

We have that validation work, which is where a validator will sit here and contact fishermen. If they can't resolve it that way, it goes back and forth, and that is something that we feel will be greatly reduced by having these valid entries. Now, there are instances, like you just said, where there are going to be gear interactions, or let's say you are fishing for a specific species with a certain type of gear. We do have internal validations set up that would question and ask the fisher to basically certify that this was correct, and I believe that's the situation you're describing.

Depending on how we set those validations up, it could be a little bit speedier of a process. Now, certainly, with an electronic logbook, there is no correspondence, as we don't have to send you a

paper logbook copy to verify this is correct, and we can do this all online, and so, instead of having that back-and-forth take several weeks, because of mail, we can do it electronically, where you log into the system and make the correction, and then it's validated right then and there, and that should significantly reduce the amount of time it takes to do that.

MR. COX: Thank you. While I've got you, I've got one more quick question, and I don't know if this is something that you deal with or not, but, for dealer reporting, which I know we're not talking about here, there has got to be some way that we can automatically submit or set the system up to automatically submit dealer reporting without having to manually do that every week, and it's an oversight, and so then we get a penalty if we have that happen over and over, and so, at some point, we've got to figure out a way to have an option to set the system up for dealer reporting to go in automatically every week.

MR. PIERCE: Even though that is our shop, I don't deal with that specifically, and so I can't specifically answer that question, and so I apologize.

MR. HULL: Jack, as a dealer, we submit electronically now.

MR. COX: Yes, but you have to manually do that. You have to push the button every week to make it happen, and I would like to see it where it's set up to where it can automatically do it, if you're on vacation or something and you're not sitting in front of that computer and having to think that I've got to do that every week. Can you do that?

MS. MARHEFKA: I was missing -- I am the only one that does it, and so, if I wasn't on it or I was out of town, it wasn't getting done, and so I talked to our person here, Amy Dukes, and you can just, for the foreseeable future, go in and put in no-fishing reports in SAFIS. Then, if you go back after -- Like you could set it up for a whole year that you're not going to be reporting. Then, when you go in, it will -- If you do have a positive report, it will plug itself into that timeframe, and so you don't have to do it every week, but you can preemptively do it for a long stretch of time.

MR. COX: That's very good to know. You'll have to show me how to do it. Thank you.

MR. PASKIEWICZ: I appreciate the update on the electronic logbook situation. I'm just curious. With all of the processes that have to happen still, do you have a target timeframe that we could be expecting to be able to possibly experiment with this or use it?

MR. PIERCE: That's a good question. There is a couple of angles, and I will approach all of them. We have a meeting set up with ACCSP, and, as they're kind of our partner, we can't do anything without them, and we are working step-in-step with them. We do have a meeting in a couple of weeks, to start nailing down that timeline. There are a few things that have to happen. The database reconciliation that I mentioned earlier is nearly complete, and they are aware of all of our concerns here at the Southeast, and so they know which variables, within their database, they need to bring up to speed. We've done all that work, and that's taken a lot of time. However, we feel that they understand what we need.

Going through the standards code process, I'm not sure. We hope to get an update on that in the next couple of weeks, but I do not believe there is many variables left that need to go through

standards codes. The entity linking and submitting towards compliance, submitting a logbook and having it count toward compliance, it is moving along, and we should get an update on that in two weeks as well.

Still, after we get all of this developed, it will take developers some time to develop the application. However, we have not changed too much from our pilot, and so I do not feel that some of these vendors that participated in our pilot will have too much trouble bringing their current applications up to our standards, and that's because we didn't really have much to change. We just had a lot to change from the backend about where this data is going to go, and so we think keeping in touch with them, and the ACCSP app, eTRIPS, it's pretty close to where it needs to be right now.

There are some tweaks that need to be made, but it is close, but there are several things that have to be done before we get there. However, with all that being said, it's our goal that sometime in the next year to have a voluntary electronic logbook reporting program in place. In the first iteration of this, we will have some first -- The early adopters come on and start using it, and we expect to have them report only electronically and not do this tandem I need to report logbooks and electronic logbooks. It would be a full launch, where somebody would be using electronic logbooks in lieu of paper logbooks, and so I expect sometime next year, but, specifically within that timeframe, I will know here in a few weeks, hopefully.

MR. HULL: That's good news. My question would be this would be in the form of an app that would be downloaded to a mobile device, potentially, and used in that way?

MR. PIERCE: Yes, and I can say all of the above. The one positive that I can say that has happened in this kind of process is the technology has really caught up to where we think it should be. When we did the pilot, we had these very, very old laptops plugged into the GPS system on several of these boats. They took up a lot of space, and, for center-console vessels, forget about it. It just wasn't happening.

However, now, tablets have GPS chips in them, and so they don't even need to be connected to a data network. You just download it at home, and they work, and they collect everything they need offline. Some of the electronic logbooks will be app-based. I do not know how effective they will be on like a smartphone, but, for tablet-based reporting, I think they will be really, really nice and will capture everything that we need.

For these larger vessels that do have larger electronics onboard, they can be a desktop application. They can be used with VMS units, for those in the Gulf that are using VMS units now and have a small tablet attached, and so there are a range of options and a range of things that can be done, and we expect multiple vendors and multiple types of technology to be deployed, all giving us the same data and reporting the same way, depending on fisher preference, and so, yes, all of the above.

MR. HULL: Thank you again for that, and, speaking on behalf of the AP here, we wish you good luck and speedy completion of this. Thank you very much.

MR. PIERCE: Thank you.

MS. BROUWER: Thank you, Brett.

MR. HULL: What is your preference? Does anybody need a break? We haven't been back that long from lunch, but is everybody okay to move into the next item, which is Amendment 33, red snapper? I don't see anybody saying no, and so I guess here we go. Myra is going to present the overview on this, and then we're going to have discussion and recommendations and see what we get out of this. By the way, there was quite a few, several, comments made online in regard to the red snapper Amendment 33 that were addressed to the AP.

MS. BROUWER: Thank you for that, Jimmy, and I was going to remind you that there are several comments in the online form. Also, your Attachment 6 -- I forget what attachment it is, but it's the next one after this one, is the summary of the public hearing comments that the council reviewed when they last met in September, and so, if you're interested in seeing what those comments are -- I am still going to -- For the actions that are left in the amendment, I will go over what the public comment was on each of those actions, but there's a number of other suggestions and things that are included in that attachment, if you're interested in looking at that.

This is just a summary document, basically just to keep you in the loop for what the council discussed in September, and you guys didn't have a chance to see the amendment as it was developed to present to the public back in August, and we had public hearings about the middle of August, and we conducted I believe it was nine listening stations over four days of webinars up and down the coast, and I believe there were four in Florida, and so we had pretty decent attendance. I think there were forty-six comments that were submitted online, in addition to about thirty folks that gave public comment on the webinar and on the listening stations.

Recall that this amendment was born of the council wanting to explore ways to allow more access to red snapper and to minimize the probability of weekends of bad weather getting in the way of fishing opportunities and then reviewing how the seasons are working and potentially changing the start date for the recreational season, the commercial season, and also get rid of that minimum three-day requirement to open up the fishery.

We started putting this together, at the council's direction, and the council removed two of the actions in the amendment, and so I'll just be going into more detail about the actions that remain. They talked about removing, as I said, that minimum number of days for the South Atlantic red snapper season, and so, right now, if NMFS projects that the season is going to be three days or fewer, then the season does not open, and so the council talked about taking that away. We also discussed about perhaps making that minimum-day requirement shorter, maybe one day or two days, and the council decided to just go with the two alternatives, or one alternative to the no action, and they selected that as their preferred in September.

One of the things that we heard during the public comment is people were confused and wanted to know whether one sector could open without the other, and so was there a potential that there would be a commercial season and no recreational, and vice versa, and the answer is yes. The way it is set up now, the seasons open independently of each other, and there is different ACLs, and so that is, technically, a possibility, and so that was clarified during the discussion the council had in September.

The summary document is very similar to what I went over with the council in September, and so there are no analyses, really, to show you. We did more of a qualitative kind of an analysis, and

that's what the council saw. We don't have a whole lot of data that are going to go into any type of quantitative analysis right now, and we're working on it, and so the plan is for the council to review whatever analysis we can come up with at the December meeting, and then, also, at that time, the council would potentially recommend or would approve this amendment to be submitted to the National Marine Fisheries Service.

One of the things the council talked about was what would happen if let's say red snapper opened for twenty-four hours, instead of three days, and is that a good or bad thing? What are some of the concerns out there, and so they talked about that, and they talked about potential safety-at-sea issues.

Scrolling down, we also talked about what the AP had recommended, and so this is the motion that you guys approved at your meeting in April, and that was to consider not allowing harvest of red snapper when they are spawning, during the peak of their spawn, and consider commercial harvest in the spring and another season, potentially, in September and December, and so the council reviewed your recommendations. As far as public hearings, folks were in support of removing this requirement, generally. There were eleven comments in support of Alternative 2, and you can still read what everybody said online. There is the link right there.

Another thing that I included in your summary here is the council rationale, and so this is basically what we were able to extract from the discussion that took place at the September meeting. The council talked about how current management has really affected fishermen's behavior as it relates to red snapper, and they talked about, even if a season were to be a single day, people would likely behave similarly to how they are behaving now, and, ultimately, it really is the individual captain's responsibility to decide whether it's safe to go fishing or not.

We talked about that short-term fisheries, like red snapper, are necessarily going to create accessibility issues, and a lot of you this morning -- I heard a lot of talk about how crowded the public ramps are, and access and crowding and safety-at-sea issues are not unique to red snapper, and so the council talked about things like that. Tournaments also create derby-style fishing, and that's another example that council members brought up. I will pause there, to see if there's any questions, and I will just keep going down that way.

MR. COX: Myra, that one-day red snapper for the recreational season, is that something that like may happen this coming year? Is that because there was an overage or something, a payback? Why a one-day season?

MS. BROUWER: Well, no. By the council removing the requirement that is currently in place that the season has to be at least three days, that creates the potential that, in the future, there might be a red snapper opening for less than three days, and so I'm not saying that that's going to happen, but it opens the possibility up for that sort of situation, and so they were talking about it sort of in more theoretical terms.

MR. HUDSON: Myra, I went to the page for the South Atlantic Council, where it says "public comments" in the center, and I dropped down, and, of course, you have your comment for Regulatory Amendment 33, and then you can submit it, or you can read the forty-six comments, but, where it says the most recent document, it's Regulatory Amendment 34 and not 33 that's in

there, and that's just to clarify, and is that -- Are they able to still submit comments on that page for Regulatory Amendment 33?

MS. BROUWER: I believe the comment period is closed for that, and so you can read the comments, but I don't believe that you could submit in particular for that, but Cameron is coming to the table, and she's the one that keeps up with those.

MS. RHODES: Hi, everybody. You can submit comment on any amendment at any time. It's just a matter of if it's going to be cataloged as part of a scoping record or part of the public hearing record, but they're open at all times until they are no longer under the council's review.

MR. HUDSON: To that point, I guess the Snapper Grouper AP comments, which cut off on the 8th at five o'clock, and like Seafood Atlantic tried to submit theirs at 5:02, and they wouldn't go, but he could submit it over on this page that I just referenced the wrong documents on. Thank you.

MS. RHODES: Just for clarification, the public comment form for the AP is for your review and not for the council's, and so we don't necessarily package those comments and provide them to the council. That's for your consideration, and so, if they want their comments to be considered by the council, they should definitely go to the amendment's public comment form, which is open now.

MR. HULL: Thank you for that, Cameron, clarification on that, that these guys need to resubmit their comments on the amendment.

MR. SEBASTIAN: Just one question. I haven't seen the wording -- Explanation of National Standard 10?

MS. BROUWER: National Standard 10 is one of the guidelines in the Magnuson Act, and so National Standard 10 talks about conservation and management measures have to, to the extent practicable, promote the safety of human life at-sea, and so this is something that the management agencies have to keep in mind when they are considering the impacts of proposed regulations, and so they are guidelines, and they are not requirements, but certainly it's something that has to be discussed and talked about when an action is being proposed.

MR. MOSS: A couple of things. Number one, I remember, when we first had the red snapper opening, and I believe it was in November, wasn't it, the first time that we had like a little mini-season, and this was a few years ago, and, excuse my language, but I remember all the hell that was received because it was in November, and the weather is terrible, and why would they open it in November, and blah, blah, blah, blah. To move the opening date back to the late fall, as much as we have it in Florida anyway, would kind of defeat the purpose from the initial stuff, which is, to my recollection, why we put it in -- Why it was put in the summertime, June and July, and that's number one.

Number two is I agree with -- When you were talking about how it would create a dangerous atmosphere with the one day, if you removed the minimum limit, and one of the things that I'm noticing, as we move more and more to these different seasonal closures for some of these species, and we see it in the Keys, especially with the grouper, is what it does the first few days to a week

or two of the opening season, where people tend to forget all common sense when they go out and do these things, and it creates a very dangerous atmosphere, and so it's also something to keep in mind as we look at -- Whether it's red snapper mini-season openings or the length of time and things like that. People, for whatever reason, we tend to lose common sense, when we have, all of a sudden, one day where we couldn't catch something, and then we can the next, or keep, I should say, and we definitely need to keep that in mind as we look at these.

MR. HULL: Thanks for that. That's like the mentality of at all cost, I have to go at all cost, but I think you're going to see a further presentation where the council made a decision on the recreational side, looking at a lot of other weather factors and things, that I think we're getting into, where they made their decisions, and I think that, overall, this first decision to eliminate the requirement that there at least be three days, from my point of view, is a good thing, because, economically, just even having one day is a huge economic benefit.

Now, if it is only one day, they need to take into account the things that you mentioned, and when are we going to try to have this, and is it going to be when there is a lot of bad weather, or is it when there is maybe good weather, and so I think they answered all of that coming up.

MS. BROUWER: Okay, and so, moving on, Action 2 is the one that the council removed, and this would have modified the start date for the recreational sector. I left the what was considered, and so this is what was taken out to public comment. There were several alternatives from May 1, June 1, September 1, and then they had choices of which week of the month they would like to see that opening, and then there was this other alternative that was going to be a little complicated, and it was sort of like a mini action on its own, because it would have given the council a lot of flexibility, and it would have allowed the recreational season to start on May 1 for a portion of the allowable fishing days, but we didn't know what portion that would have been, and then resume harvest in the fall if the National Marine Fisheries Service determined the entire recreational ACL was not harvested.

The problem with that was we already have issues with the timeliness of recreational data, and it would have been very difficult for the agency to be able to tell the council, basically, that this much of the ACL was harvested, because the way we track red snapper landings is -- It takes a lot of time. For example, we still don't have the recreational landings from this year's season, and we're probably not going to have those until after the first of the year.

They talked about all of these things, and we also showed them this analysis that Chip put together looking at the percent of days with a maximum wind speed of twenty knots or greater, which would trigger a small craft advisory, based on U.S. Coast Guard current guidelines from Georgia to Florida, and I believe the dataset -- The years are 2015 through 2018, and you can see that, obviously, the summer months are when the weather is best for folks to be out there fishing.

We talked about all of these things, and we also had this little visual, just for them to consider a lot of things at once, and so it just shows you that, okay, here we have when red snapper are spawning, and the peak spawning is from June through August, and it was brought up that, in some areas, red snapper may be spawning very actively into September, in fact, and hurricanes, of course, as we know, the peak of the hurricane season is August through October, and the best weather days is in the summer, and there are accessibility issues and access for kids when schools are out in the summer, and we also put in here consideration for times of the year when release

mortality may be higher. Based on water temperature, the summer months are going to have more mortality than other times of the year, and then when the grouper spawning closure is in place. If you take all of these things into consideration, you also have -- There is a small window of time where all the factors seem to kind of line up, more or less.

We presented all of these things in a quantitative analysis to the council, in addition to we had a lot of questions, as I mentioned, and I'm not going to go through all of those, but these are things that council staff and Regional Office staff needed clarified before we went forward in analyzing this action.

Again, here is your motion, and here's a summary of the public comments that we received on this action. They're kind of all over the place, and there was really no clear indication. You know, you can't please everybody at the same time, and some folks said, well, this would be good for us, and so, ultimately, the council said this is complicated, and there's a reason why the recreational season opens in July, and that seems to be the compromise that we came to, and we talked about the rationale that had been put on the record when Amendment 28 and Amendment 43 went into place, which are the two amendments that have, in conjunction, established the current management structure for red snapper.

There is your council rationale that I just kind of summarized for you, and some council members felt that this amendment was kind of complicated and maybe not necessary, but they agreed that it was a good exercise to go through and give folks a chance to tell them how they feel the recreational red snapper seasons are working.

This document also has, as I said, the rationale for the current approach, and so, if you go to Appendix A, there is actually links that take you to the final rules for these amendments, where the rationale is pretty well spelled out, and so I will pause there, under Action 3. As I said, this one was removed from further consideration by the council.

MR. HULL: Are there questions or comments or concerns on that, where they did not change the month that the recreational is going to start?

MR. COX: I will just say that, overall, anytime you're trying to manage a species with such a low ACL, you certainly want to look at your discards and figure out what is the best month, and that's not going to align with each state, and that's why we talk about regional management sometimes, is because like North Carolina discarding, maybe, would be much different than it is in Florida. Florida seems like they discard every time they turn around with those red snapper, but there is certainly ways to prevent it where we are, and I think that's why the discussion was had about the early opening in May, because, when the water is cooler, we have a lot more interaction with those fish than we do in the summer.

MR. MANIGAULT: I am sitting over here trying to figure out how I can put this out to you guys and not reveal my location, and I'll put it that way to you, or where I work, but I see the pictures all the time, because, where I work, I'm the fishing pro at that particular store, and, regardless of what you do, no matter how long it takes, they're still going to do what they're going to do. They are going to harvest the fish, because they're tired of the inconsistency. If you take something away and give them one day, it's going to make it worse. You will find people going out the day

before, the night before, who has got radar, all those big boats, and they're going to fish from that night until that morning, and then they're going to come back in, and they're going to go back.

If we take something away from them, it's going to make it worse, and I have seen the pictures of fish over fifty pounds that they've got. Okay? So we're going to have to come up with something, because they're going to do what they're going to do, because of the type of funds that they've spent to get out there. They are going to run the risk of doing it, and it's being done, and it's probably being done now, every weekend, as we speak. All you've got do is go to a particular fishing website in this local area, and you can read between the lines, and you will see what's happening.

MR. HULL: Okay, Gary. Thanks. Anyone else have comments or questions?

MR. LORENZ: I read through some of the public comments also, and I thought there were two interesting aspects that we might be able to bring into this that do make some sense, and I don't know how much work it is, and that would be -- One thing everybody would like would be if, at the beginning of the year, when the season is going to open, and so be it one or two or three days, and it's based on last year's data, let's publish what that is.

I thought that swag in there of taking advantage of the tides, when we have the lower tidal fluctuations and not getting involved in the spring tides, was excellent, and Randy had mentioned that we only have two nice inlets in all of North Carolina, and the rest are incredibly dangerous, and so, at least for the recreational fishermen, if somehow that could line up -- That's not a hard thing to tell for years in advance, is when those tides are not going to be as strong, and that will increase that safety factor, because you won't have these situations of the wind in one direction and the tide going out the other direction that really mounds up the seas in our shallow-water inlet, and so, if that could be considered, that would be good, and so where I'm coming from is publish and have those tides.

If you want to put in the weather swag, again, for safety, there might be, even ahead of time, if you meet those criteria, if that is practical, the small craft criteria, that, again, we would know when the next slot is that's going to be open, be it two weeks, or, if it's cancelled for that day or a couple of days, we would know then when the next spell would come, and, obviously, that would probably get out of that wonderful tide period, that more slack tide period, but that's just some thoughts, but it does add some complexity to the thinking, but it's doable.

MS. BROUWER: Right now, the way it works, the season has to open the second Friday in July, and then the Regional Office tells the council that you're going to have X number of days. There is a little sentence in the codified text that allows NMFS to change that in the event of hurricane conditions or a named storm, and so, the way it works right now, the council would have to go back and make more changes to allow for a response like you just mentioned.

MR. HUDSON: Myra, can you come back up to Figure 2 for a moment, please? There are two things that I need to at least discuss, and one of the things that I keep hearing from the recreational sector is that they don't want to be fishing on top of the commercial sector, and vice versa. On May 1, which is a Friday coming up in 2020, and if they have three days, with the Saturday and Sunday, that may be all they have, but I don't think we have those numbers right now to know what they did this year. Maybe you do. No? Okay.

The second thing goes back a couple of years, because some of us in the Florida range, when it came to the spawning season closure that's been in place since 2009 for grouper, realized that April -- We kept trying to get that opened up in our southern range, because, otherwise, the groupers have already moved by. Maybe north Florida will see a few, and Georgia, right on up the line, but, where we're at, back to central Florida and south Florida, we don't, and so the May 1 opening is not a grouper thing for us.

I just kind of wanted to point that out, but, on the red snapper, and I guess I've been saying here ever since I've been coming here and dealing with red snapper since 2009, is that we're in the heart of red snapper country. It's been that way historically off of the east coast of Florida, and we're not in the Gulf of Mexico, mind you, but we still have our reputation.

In this season of -- NMFS does everything online in whole weight, and the State of Florida, whenever we ask them for what happened this year, provided the numbers in whole weight, and, out of the entire quota, and I am hoping that we're pretty close to being accurate, but the quota was 124,815 pounds whole weight for the commercial, and we caught 120,548 pounds whole weight, collectively, from Florida to North Carolina, but Florida, by themselves, had 102,959 pounds whole weight, and that left a balance of 17,589 pounds whole weight for Georgia, South Carolina, and North Carolina combined, and plus they have the grouper up there at that time.

It's sort of kind of not hard to see where the red snappers are going to be, and, whenever I came to make my comment, and I wasn't doing too good at the council meeting that particular day, and I had tried to do outreach, but I had just sort of gone along with the flow of a May 1, but I realized a couple of things. We would be right on top of the recreational. The second thing that I came to realize, down on the Florida end, is that the main players that accounted for that 102,959 pounds whole weight on the east coast of Florida wanted an August 1 opening, and, as you see, not only is it typically the best weather days, but it puts us in the last month of peak spawning, instead of in the middle of it or as they're building to.

We haven't had a port sampler this year from National Marine Fisheries Service. We lost Claudia Dennis, who had been our port sampler for a long time, because she retired, and so, to be able to examine the gonads on all these animals and take the otoliths and do all that type of stuff, that's an important feature of doing these mini-seasons, and so, this year, we're at a deficit of samples, but I would like to go with what the fish houses want for their commercial boats. I am not going to speak for the recreational component, because I believe they've been loud and clear, and, if we get to the point where we need to make a motion, I would like to be able to know that we're getting just past the peak, if that's possible, for making the motion, and so thank you.

MR. HULL: We will get to the commercial part soon. Thank you, Rusty. Let's move on to the next action.

MS. BROUWER: Action 3 was, again, for the recreational sector, and this would have revised the days of the week that harvest of red snapper would be allowed during an open season. As I said, the council did remove this action from further consideration, but you can see what the alternatives that were taken out to public hearings were, so that you can understand the public comment that went with this action.

In this scenario, the way we had it laid out, the council could have selected multiple preferred alternatives, or sub-alternatives, and there were a number of scenarios for opening recreational harvest on consecutive Mondays, consecutive Fridays, consecutive Saturdays, consecutive Sundays, and then the rest of the alternatives looked at maybe every other weekend, or the last weekend of each month, and so we had quite a range of different scenarios that could have been selected, in addition to Alternative 8, which was the one that provided the most flexibility.

Again, it was going to be a rather complicated thing to work out, and so, under this scenario, the recreational season would have -- The season of it would have been determined ahead of time, based on information the Fisheries Service would have brought to the council in March of each year, and then the council could have, theoretically, told the agency that this is how we want to structure the season for this year. Then NMFS would have announced the opening of the fishing season through the Federal Register and whatever other methods they deemed appropriate, and then the end of the season would have been predetermined.

It was, on paper -- Like I said, it provided a lot of flexibility. There was only one comment that actually was in favor of that alternative. We discussed the preliminary analysis. Again, there were questions, and all of the caveats that I just mentioned were brought up to the council for their consideration, and here are the public comments that were given on this action, and so, again, not a whole lot of support for anything, really, not even -- There was one comment in support of no change. Again, this is where the council thought, okay, this is going to be complicated, and we're not going to be able to please everybody, and there is always going to be somebody that doesn't like the way it is, and so they chose to remove it from consideration.

MR. HULL: Any questions on that action?

MR. HUDSON: Could you scroll back to 8? The Georgia meeting next March, that's, I guess, where we're going to -- The analysis and the data should be available, if available, as it says, and will Regulatory Amendment 33 -- Is this supposed to be finalized before that March meeting, or do you see it being finalized after that March meeting somehow and becoming effective?

MS. BROUWER: We will get to the timing, but we are on track to get this in front of the council at their December meeting, and they would approve it for submission then. Because of the holidays and all that, even if we submit it right away, it would take some time to start going through the review process at NMFS, and then maybe -- The idea was, initially, that any changes that came out of this amendment would have been in place to affect the 2020 seasons, but I really couldn't tell you. The way things have been moving -- I mean, we're talking about some of the amendments that have been under review for almost a year, and we still haven't seen things implemented.

DR. CRABTREE: If the council takes final action on this at the December meeting, it won't be done before the March meeting, and the problem with Alternative 8 is, in my opinion, I don't think that's doable, because we would have to go -- If the council is going to change the start date or something like that, they are going to have to go through notice and comment and proposed rules, and so it's just simply not a workable option.

The key to us being able to announce the start date of the season early is for the council to stop changing things, because that's what -- We can't then announce the season until the change goes

into effect, and so we need to leave it be. Now, if all they do is get rid of the three days provision, that wouldn't affect the actual -- Unless it turned out to be less than three days somehow.

MR. HUDSON: So exactly what would be the best timing to make sure we got everything in place so that -- We make these choices here, but the public has already made their choices, I guess, or -- I am a little bit confused.

DR. CRABTREE: Well, the best thing, from our perspective, is to leave the recreational season alone and leave it starting where it's been starting. We are waiting now to get the report from Florida on their catch estimate, and, once we get that, then we'll be in a position, early next year, to go ahead and announce the season, I think.

MR. HUDSON: So that's a status quo for the recreational, roughly starting about the same time that they did this year? Thank you.

MR. HULL: Thank you, Roy. The only thing that's been recommended so far by the council, as far as the recreational red snapper season is concerned, is to eliminate the three-day requirement that the season be three days. What they did is they said, no, it can be one day, and so now we've got to wait and see if they went over and they're going to make an adjustment. Everything else had been considered and rejected, and so that's the only thing for recreational, is that we got rid of the three-day requirement, and now we're moving on to Action 4 to modify the red snapper commercial season, where there is a change. Go ahead, Rusty.

MR. HUDSON: That means we are making at least some adjustments with this Regulatory Amendment 33, and it helps out the recreational, in case they do a one-day or like Saturday, Saturday, Saturday or something, and then I take it that we still have the carryover, in case we get a bad weather day, and it appears that they can jump to another day, and that's how we've done the recreational before, when we knew that they got blown out.

MR. HULL: I think what you just said is that there would be a Saturday, Saturday, Saturday, and no. It would open up, and it would run for the amount of days that it is projected to run, or was it spread out between -- If there was enough days, they would spread it between two weekends, two three-day weekends or whatever, but we'll see. If we come back and there is six days, that's what they will do. If there is two days, it's going to start and be done in two days, and so we just have to wait and see what the season is going to be, but, if it's projected to be less than three days, you're still going to have a season, and so that's the outcome of that recreationally. The season is going to start the same as it was before.

MR. HUDSON: They did get their two three-day weekends, I think early on in one of those mini-seasons and stuff like that, or maybe the second season, and I can't quite remember, but all of that is good, I guess, in the scheme of things, and so I'm supportive of whatever the recreational definitely would want from this regulatory amendment, and you're saying that the commercial could actually vary, through this mechanism, what they think might would work out better, to both be a little more on the post-peak spawn and still be able to have something that might go into the rest of the year, if possible, and I'm just kind of guessing, because there will be, potentially, weather days on the commercial.

MR. HULL: I agree, and the commercial is managed completely separately and tracked separately, and so it's a whole separate quota. Anything else on the recreational part?

MR. MOSS: This is actually probably a little bit more commercial, but it's kind of a devil's advocate question for Rusty and really generally, but, the red snapper, they're not like aggregate spawners like we have with muttons, where they confine to a few different areas and you really see them heavy, right? I think we determined that they were kind of everywhere, right?

MR. MULL: Well, anecdotally, from me, I can tell you that now they spawn everywhere.

MR. MOSS: That's what I'm saying, and so I guess, again, and, Rusty, this is kind of to you, but my devil's advocate question would be what difference does it make if the season is open in the middle of the spawn or the end of the spawn? If you're going to harvest the fish, you're going to harvest the fish, regardless. I guess the answer would be because you had a chance to let them spawn, perhaps, if you're doing it at the end of the season, but there's no guarantee that it happened, and I'm just kind of throwing that out there.

MR. HUDSON: Well, let me put it like this. In my history of harvesting what we call bonanzas on the commercial level -- Generally, like the last one that I found was June 26, 1989, five-and-a-quarter miles off the beach, with no other fish on a piece of -- It was a shaft in the propeller from an old tugboat, and we wound up fishing on that for a month, and then they were fully spawned at the end of the full moon, because the June 26 was the full moon, and then, by the next full moon, they were done, and then they were gone. We didn't catch them all, because it was like that up and down in various places, because we've had a lot of benefits, in some ways, and, yet, now, it's better than it was in the 1960s, and that says a lot.

That means that there are so many of them that they're just going to be spawning where they are, but they're a 50/50 ratio male to female, and it's not like groupers that shift sex and stuff like that, and so there's a lot of considerations, if we want to have a sustainable stock and have it, quote, rebuilt, and we won't know that until either they do what they've got on the books, which will take until 2024, or do an operational assessment and plug in the numbers and somehow tweak the issues, and maybe that will make a difference to increase everybody's allocation.

The last thing is, with the recreational, with regard to the MRIP calibration changes, I am assuming that this year's fishing may reflect those numbers, and then they will backfill the other numbers, just to see just how big that was, and I'm just throwing it out there.

MR. MOSS: I guess that's kind of my point, is, from what I hear, and I'm a little bit south of where the red snapper fishery really starts, but, from what I hear from everybody, they are thick as thieves, kind of up and down the coast, starting at roughly your neck of the woods north, and so, if it's in the middle of the spawning season or not, it doesn't seem to matter. I mean, I will ask like some of the Daytona guys and stuff like that, and they're kind of everywhere. From what I have heard, you guys can't get bait past them half the year anyway, right, and so I guess I'm just -- Like I said, I'm kind of throwing devil's advocate out there, and does it matter that much if it's in the middle of the spawning season or not?

MR. HUDSON: Some people believe that it does, and it's like harvesting the shark when it's got the pups inside of it, and then they die, because it's just before let's say the third trimester, and

usually it's a nine-month cycle. We're not able to get the gonads and stuff like that, and, if we had some requirement to make sure those samples are taken, then we would have data on the peak in a better way by region and time, and that may make a difference, because there is a spillover effect that is working its way north with these red snappers, and, if it gets back to some of the ancient history, where, in Massachusetts, they would catch a sow snapper, and I'm talking ancient history now, but it's just a what-if, because there is a big displacement of a predator-rich environment now that's a lot different, and everybody is talking about it, and it's hard to get away from it until we get the science that reflects the reality at the side of the boat.

MR. BEARDSLEY: I had a lot of comments, and we actually had a tournament for red snapper, when it does come about every year, and the public of the recreational side of our club, when filleting these fish, all of them were full of eggs, and the comment was why are we killing these, or why are they setting this date at the peak of the spawn, and, again, is it going to be better to do it at the beginning, and we're only allowed one per day, compared to letting them -- Doing it towards the end, and so there was a lot of comment that people weren't real happy about that.

MR. MOSS: I get the optics of it aren't very good, when you open a fish that's full of roe or something like that, and I guess, if we really look at the -- Like I said, I don't really have a dog in the fight, because I'm kind of south of it, but I'm just curious. Like there is no guarantees, if you do it towards the end of the season, whether or not that fish is going to be full of roe or not either, and, at the end of the day, if you're harvesting the fish, it doesn't matter if it's January or June. It's not going to be able to spawn, regardless of when you harvest it. In a perfect world, you can question the fish and say, well, did you throw some eggs this year, and they say yes, and you say, okay, good, come with me, but it's just not reality.

MR. HULL: I will throw another wrench into that. I believe these animals spawn multiple times, and so, if you harvest them, and you see all those eggs there, you know, well, how many more times -- How many times has it spawned maybe prior to that, and so, for me, I would rather let the animal go ahead and spawn as much as it can and then harvest it. Let the momma cow have the baby calf before you send her to market, but that's just kind of a simplistic way of looking at it, but are we ready to move on to Action 4, where there is some -- Jim, go ahead.

MR. MORING: I don't know if you all saw the -- There was one comment from a guy talking about tagging, using tags, which I thought was kind of crazy, and then I started thinking about it, because that's going to be costly, but to tie the tags to getting your tags next year to reporting your catches, maybe even with a photograph that you download to a website. We're always talking about we don't get enough reporting from recreational fishermen, and that may be something -- Then you could have a season that's longer after spawning that is not -- We wouldn't worry about tides, and we wouldn't worry about weather, a bad weekend, and if it was maybe a two-month season, but you're only allowed to catch so many fish, and you've got to sign them when you catch the fish and attach it, and I don't know if anybody has explored that, but it's something that -- Then you wouldn't be able to get tags next year unless you have reported the ones that you caught.

I mean, it's complicated, but we're always looking for something that -- I think sometimes we have to think outside the box to get to a new thing, and we're not getting the reports from recreational fishermen, are we?

MR. HULL: Well, I think Myra can answer some of that and the discussions that were had about applying that to the recreational fishery.

MS. BROUWER: Just a little bit of background. The council did actually start an amendment, and it was Amendment 22, I believe, to the snapper grouper plan a few years ago to look at harvest tags. Initially, they started looking at them for deepwater species, like golden tilefish and that sort of thing, and we developed it maybe like halfway, and I don't think we actually got to public hearings, but it became complicated, because it would have to be a lottery, and you would have to make sure that everybody has a chance to enter the lottery for the tags, and then there was a question of who would pay for such a program and who would administer that program, and, if you were to charge a fee, would that have to go through the states, and it quickly kind of snowballed, and then the council said, you know what, let's not think about it right now, but it's still sort of been on the back-burner.

It did come up for discussion in September, and it's not something that I think the council wants to tackle right now, but it does keep coming up, and so I think it's been brought up, and it gets brought up a good bit by folks, and there was a person that suggested a punch-card-type approach, and there's all kinds of suggestions that are being brought forward that I think -- I don't know that the council just has the time right now to be looking into that, but it hasn't been just completely gotten off the table.

MR. MORING: Has anybody talked about tying it -- I think some of the recreational fishermen would pay for the tags, as long as it wasn't outrageous, and then tying it back to reporting, and we just -- We were looking for alternatives to get reporting, and nobody is doing it, and so this may be a way to get reporting.

MS. BROUWER: Right and so that's one of the reasons where MyFishCount came from. Initially, it was a pilot to look at reporting specifically for red snapper, and we launched it during the red snapper mini-season in 2017, and it grew from there to what it is now, and it's gone beyond red snapper, but, initially, that was one of the things that we wanted to explore. If we can't have a tag system, or any other way to have better accounting for red snapper landings, then let's have this reporting app, and that's where that all came from, and we'll be talking about MyFishCount, and I'll show you some statistics for the information that we've been able to get through MyFishCount specifically on red snapper later today or tomorrow.

MR. BEARDSLEY: At the east coast, if we do more fish counting, will we get some -- Like the Gulf got extra days? I got so many questions before coming up here, and everyone went crazy, and I probably had 300 texts from people of we've got six more days and great, and then, after I had to tell them that no, that's the Gulf side, and our senator and our governor decided that, and so, if we use the fish count, will they let us have a little extra days?

MS. BROUWER: The number of days is tied to your recreational ACL, and that's directly tied to the stock assessment, and so there's a stock assessment that is scheduled for red snapper, and I believe it starts in 2021, and so, unless that process gets sped up, we're kind of stuck with what we have. One thing that I will remind everybody is that one thing that was able to be accomplished through the reports that we got through MyFishCount is that the season -- I believe it was in 2018, because there was bad weather, and so many people were not able to go out fishing, the agency

reopened red snapper later in the year, and so that is one thing that, in the past, did happen, and that was directed tied to folks reporting.

MR. HULL: Randy, I would say your club -- You should be recommending MyFishCount, and they should all be using it.

MR. BEARDSLEY: FWC came in, and we did a tagging program with the whole club, and they brought in a seminar, and we had to learn how to put the tags in, to insert them and things like that.

MR. HULL: Well, this is the electronic reporting, which is really what we need from the recreational sector, and there's that -- The hardware is there for them to do it, and so it would really be great, where you're like the president of that club, to push that, and that would be something that we really would like to see, is more reporting from the recreational sector.

MR. HUDSON: Back in 2006, Rusty was only doing consulting for the shark industry, but I happened to be looking at the red snapper SEDAR 15, and I saw that was bad news that was coming at everybody, and nobody knew that it was really coming, because there was no fishermen, except the black grouper fishermen, at that particular event, and so would up then, knowing that there was a proposed rule virtually closing the ocean in our neighborhood, and maybe up and down, and so, come 2009, after Roy had sent George, in 2008, the fact that they're going to have to do something, and so that meant they had to start on a plan, and they started on a plan, and then an interim rule got implemented on January 4, 2009.

We closed red snapper for the entire year and for several years running after that, but, because of some efforts on our part, we were able to get the council and NMFS to go along with doing SEDAR 24, another red snapper assessment, but it was truncated and accelerated, and so there were some issues, and it improved a little bit, but then we got some mini-seasons, because Roy helped us with the fact that he felt that overfishing was probably not occurring, yet then the discards, after we got the mini-seasons, started getting counted against us, and we got closed down some more, and don't forget that we had the ocean closed seaward of 240 foot, and we had to get that out of things, so we could go back to doing our normal stuff.

Then we did SEDAR 41, and there were more improvements, but, all along, people like Jimmy and others participated in finding not only age-zeroes and age-ones, but we were able to do other things with FWC and National Marine Fisheries Service and MARMAP and whomever, and now here we are. We are still constrained by a small allocation for all sectors, and that's the for-hire, and that's the commercial, and that's the private, and, until we have realistic results that shows what every one of you are seeing beside the boat, and that's not going to come very quick.

Even if we did an operational assessment, you're still down the road about maybe two years or something, if it started yesterday, and I don't know, but this other thing, the research track, 2021, and 2024, by the time we debate it, 2025, and oh my god. How many red snappers and sharks are we going to have then? We've got to find a way to solve this predator problem. Thank you.

MR. MANIGAULT: Rusty, you always impress me. Truly you do. You're not the man to lie to. You need to work in law enforcement, but, anyway, interrogations or something, but I was wondering, with the red snapper dates the way that they are up and down, is there any way that we could have the people who are opening the season use some form of a NOAA weather module, or

a European weather module, to determine whether or not that particular weekend is a great weekend to open or we should close it, because we see small craft advisories? I understand the weather changes, but we should be able to get some form of a picture, to determine whether or not that's the weekend to open the actual red snapper season or move it forward or whatever the case may be.

MR. HULL: Thank you, Gary. I think that's a really good idea, and the council did take into account, as Myra said earlier, for if there's a hurricane, or if there's storms like that, that they can come back and change it, but I think, right now, you better hope that there is a recreational season. We haven't seen the numbers yet, and so, I mean, at that point, I agree with you, with what you're saying, and it would be nice to have that, but I think we have more pressing questions to be answered, and we've got to see these numbers from Florida and see how much effort there was and see how many discards there was, and landings, to see where we're at. Okay. Are you guys ready to move on to Action 4? Then we'll take a break. After we get done with this, we'll take a break, and I think there might be a cookie left up there, although Roy has been up there.

MS. BROUWER: Thank you, Jimmy. Yes, Action 4 is now Action 2, since there's now only two actions in the amendment, and so this would modify the red snapper commercial season, and the council selected their preferred, and you can see that on the screen, and it's to modify the commercial red snapper season start date to May 1, unless otherwise specified, and, as I was saying earlier, that language there is to allow NMFS to make changes, in case a hurricane is bearing down on us or whatever, and then they would be able to shift that.

Alternative 4 was included for comment during the public hearing process, and the council decided to remove it. This is one that was sort of modeled after your motion that you approved in April, and the reason they did that is the commercial harvest -- Because the ACL is not changing, there is still going to be a chance that you're going to harvest the entirety of it in a couple of months, and so they didn't see a need to have a regulation that would pause harvest during July and August if harvest was probably likely going to get closed down before that time, and so they decided that open it on May 1 is enough, and then let it run as long as it will run, and so they removed that alternative from any further consideration.

We presented information, and we have this little interactive application that I wanted to show you, if I can, and this is something that we presented to them in March, and, again, Chip, who is the guru of putting these little things together, compiled all this information, and I haven't used it in a while, and so I don't know how to make it stop. Okay. There we go.

It has a lot of data, and it goes back through 2012, and then you have all the species listed on there, and this gives you an idea, and here comes Chip, and maybe he can explain it better, but, basically, it's to give them an idea of when commercial harvest is happening and when it's not, and so they can see which species are open at what time, and so I will let Chip explain it a little more.

DR. COLLIER: You caught me off-guard with this one as well, and so, in pink, those are seasonal closures, and so those are going to occur every year, and so you can see, up here for black grouper, that is closed from January through April, and then, in the darker red, those are ACL closures that occurred, and so, in that year, the commercial fishery met their ACL and closed afterwards, and I think that's 2018, and so, if we switch back to 2014, for this species here, blueline tilefish, it closed in June, and so you can see how it changes year-to-year.

Then we also had a second one that we developed, and this was just looking at potential seasons that the council was talking about, and so thinking about it not in a closed sense, but thinking about what other species are open at this time, and so, if it's in green, those species are open, and, right now, we have July through December selected, because that's the status quo, but, if you wanted to remove certain months, you can see how it would change or add different months or have split seasons, however you want it, and you just click your group of months that you would like, and you could see which species would be open at that time period. The species that we selected here are species that we heard from fishermen that they commonly occur with red snapper. Right now, it's open -- The current preferred is May through -- Well, until it closes, but you can see when it would potentially have some overlap.

MR. HULL: Okay. Chip, thanks for that. One this is this is for co-occurring species that would interact at the same time, as basically you're targeting them, and there is snapper there. I can tell you, in Florida, we target red snapper, and easily we're back at the dock very early, and so it's become a targeted fishery for us and not a bycatch fishery, as it may be in like North Carolina, and it seems like it's more of a bycatch, I am guessing, but, in Florida, I can tell you that it is a targeted fishery, and it's been a good one, now that we've got a little bit of it back.

I think that some of the comments from the people in Florida, in my area, commercially, is that, since it's a targeted fishery, they would rather see an opening that benefits the price at that time and the availability of other things at that time, and that's why a lot of them made comment, and there was a lot of comment for opening the commercial in August, which would satisfy after the peak spawning, which we think is July, June and July, but would benefit the fishermen and the market at that time, and I think that was mostly what they wanted, and so it doesn't really matter, for us in Florida so much, that, okay, the grouper spawning closure just is over with, and now we're going to go try to catch a grouper, because we're not doing that, and it doesn't really matter, and the bycatch with red snapper in Florida is 365, all year, every day, no matter what else is open, and so I think that was, for the guys from Florida, where most of the landings are commercially, this doesn't really matter that there is co-occurring openings at that time, if that makes any sense.

DR. COLLIER: So, with that, it's probably better to look at these seasonal and other closures, to see if there is something else available, and so you can come to this list and select what species are important to you and just see if, all right, am I going to have something else to fish on during these other months, and so you're saying you want to start in August, and so you would be able to look at this and say that I want to have stuff available to me in August, prior to this, and make sure that they're available, and you can select the species that are important to you and look at it, and it will just help you make decisions.

MR. HULL: Yes, I agree, and that's -- Looking at that, if you look at the months, the summer months, there are a lot of other things that we can fish for. The vermilion fishery is pretty -- It's lasting pretty long now, and there's triggerfish and jacks, and so there's a lot of -- We're multispecies, and we target multiple species, and so the thought was that maybe there is some other month that we should consider besides -- At least speaking for people from Florida, but this is helpful right here, that you can actually see that. Thank you.

MR. HUDSON: Chip, I like what you've got right there, and could you put it on 2012? Wasn't that our first mini-season, and, if I remember right, it was a fifty-pound limit, and we didn't have

any way of reopening or something, and so we didn't catch our allocation that year, but I think, after that, some flexibility came in, and there was an increase on the trip limit, and then we started catching it, and even this year, technically, we caught it.

DR. COLLIER: 2012 was an emergency opening, and so it was likely a little bit shorter, and then 2013 was set up through an amendment, Amendment 28.

MR. HUDSON: Was 2013 the fifty or seventy-five?

DR. COLLIER: I am drawing a blank on that. I know it switched shortly in that, and I believe in 28 is when they had gone up to seventy-five pounds, but I'm not positive.

MR. HULL: Chip, on this, and I know this is 2012, but the colors -- Those are closed, and the season is closed commercially where it's colored in, correct?

DR. COLLIER: Right, and the lighter colors indicate a seasonal closure, and the darker colors indicate an ACL-related closure.

MR. HULL: Okay. Got you, and so there's a lot of closures, and that was in 2012, and could you go back to the 2018? Again, if you look at later in the year, there is more species that are closed in the fall and winter months, from say August out to December, than there are in the first of the year, but you can see where -- It's hard for me to see, but, just looking from back here at the colors, there is a lot more closures later in the year than the first half of the year.

DR. COLLIER: If you would like me to limit this to a certain group of species, I can do that real quick for you, or you can look at it yourself, either way, but these little apps are available for anybody, when they want to click on them, and I believe Myra has a link to it in the document, and so it's always there, and they are going to stay up there as long as I can keep the server up and running. I haven't had any issues so far, and so everything is working well.

MR. HULL: Thank you.

MR. HUDSON: Back to the amendment, as far as the commercial season, and are we going to -- We don't have to designate any of these alternatives, and we can just make a motion for a new alternative, in case we want an August 1 opening for commercial?

MS. BROUWER: Well, the council has already selected their preferred, and if they are going to move this amendment along and submit it for formal review in December, there wouldn't be any chance, but you can certainly recommend to them that they consider, in December, changing or adding a different alternative, and that would, of course, delay when the amendment gets ready, and they would be having to look at it again at their March meeting, looking for maybe submission sometime after March, which, obviously, would delay implementation into maybe 2021.

MR. HUDSON: Well, that doesn't sound really encouraging at all, but, at the same time, something that Dr. Crabtree had to say a couple of times, I think at the council and stuff like that, he was sort of like wanting to just leave it alone and don't rock the boat and it might mess up the data inputs, and I don't know if that's true, but, if it is, then whatever operational or research track and everything else -- This trail we're leaving is going to definitely be mottled.

MS. BROUWER: Right, and so what I would say is the analysts use catch rates in order to predict when the ACL is going to be caught the following year, and they have to use catch rates, obviously, when there has been harvest, and so, if there's never been harvest in August, or there's never been harvest in November or whatever, then they have to sort of substitute data to develop those catch rates, and so that's, I think, one of the things that Roy was talking about, is you run into problems when you change the management structure, and then you just don't have that baseline information that you need to be able to make better predictions, and so then that becomes more and more uncertain.

MR. HUDSON: Yes, I agree, because I don't want to rock the boat and delay anything, and the earliest that we can get data anyway is, like Jack used to say, June, and some say July and stuff like that before we can even start using that data from the previous year.

MR. MCKINLEY: I just wanted to throw my two-cents' worth in for North Carolina. I mean, I know we have a pretty small percentage, but it was more -- I mean, obviously, May would be, by far, the best month, because that's when we're moving in and grouper fishing, but it's not just that. The Amendment 30 with the red grouper would take that away from us in May, and, by taking that away, if the reds were there, we could move inshore and catch the Americans and gags.

Also, in the next couple of years, we're going to be hit, probably, with that ACL reduction on the b-liners, and I think we're going to have some closures probably at the end of April, and possibly in May, and so that's going to take that away, and that would be the trigger, and so there's a lot of things, because I think -- Wasn't the ACL on the b-liners going to be the highest this year, and then it was going to reduce down some? I'm pretty sure that's right.

Anyway, the range of the Americans is -- We have nowhere near as many fish, as it hasn't been rebuilt as much as Florida, obviously, has, and so, hopefully, by doing that, it would help us reduce discards and harvest them when we do, and maybe be able to go up as much as Florida, and then it wouldn't matter.

MR. HUDSON: I actually could foresee, if we get a stock assessment that reflects what we're seeing up and down the coast, regional allocations that somehow could be fished on in some way, but all of that would take time, just like all of the ideas on how to be able to get the recreational to be able to fish, and we have to know exactly -- The numbers in the stock assessment have to resemble what we're seeing at the side of the boat. Otherwise, we know it's wrong, and that is what is going on right now, and it's been going on for a decade.

I say that because those last two years, 2009 and 2010, or 2008 and 2009, and I will have to look, but there was like a third-of-a-million pounds or so from the commercial sector, and I don't know what the recreational was catching, but those -- You could tell that there was a benefit that had come from what we believe was the twenty-inch minimum size from 1992.

MR. HULL: Thank you.

MS. BROUWER: Just to finish up discussing this action, I just wanted to point out that there is the public comment summary for this action, and there are the twelve comments that have been brought up from fishermen in Florida that were requesting an August start date, in addition to a

handful of other comments in support of different alternatives that are being considered, and then here is the council rationale. This is, again, just what we have extracted from the discussions that took place at the September meeting, and so we'll present them with this in December and make sure that we have captured the rationale for why they are proceeding the way they are, and so just to point out that the council acknowledged your concern about harvesting during peak spawning.

They did, however, remove from the purpose and need of this amendment the intent to reduce mortality during the red snapper spawning season, and so the purpose and need changed a little bit, and there was some language about reducing discards that was included in the purpose and need, and so you have here the third bullet of allowing commercial harvest of red snapper at the same time grouper harvest opens on May 1 would help reduce discards, and that was one of the justifications given for their preferred.

Another thing that was brought up, as Jimmy mentioned earlier, is that red snapper are no longer an incidental catch in some parts of the council's jurisdiction, and they are being targeted in some areas, and then there was concern and acknowledgement, most of all, that we expect to see some pushback from having the commercial season open ahead of recreational, and that's something the council acknowledged, and I think they are prepared to deal with that, and I think that's it. Any questions?

MR. COX: Remind me again, Myra, why we decided not to put a size limit on the red snapper, and I will tell you that it's disheartening to see a little twelve-inch fish come in, and we see some really small red snappers come in, and so I don't quite understand it. I mean, we just sat here and said that we've got -- I think it was Rusty that just said that we had a nice deal there when we had a twenty-inch size limit and kept rebuilding the fishery, but now we're going back and not doing that, and why is that?

MS. BROUWER: What I have heard the council talk about is to reduce discards, and so the seasons are very limited, and so they don't want to impose another restriction that is going to potentially increase discards, but they are aware that that also creates a potential for high-grading, and so it's a double-edged sword, and I don't know that there's much that they feel they can do about that.

MR. HUDSON: Myra, if we go with the status quo, Alternative 1, I guess, that's the second Monday, which is the 13th of July, and, this year, we opened on the 8th of July, and we got fifty-eight days, or something like that. Then, on August 30, it was supposed to close, and it started to blow, and it's been blowing almost ever since, and so there's a lot of stuff to have to think about there, but I guess the question is, if we go with status quo, there really probably won't be a delay, and then we could be still on the schedule for next year and not have to kick the can down the road and wind up in 2021, like you were suggesting.

MS. BROUWER: Well, what I was presenting to you was a scenario of if you were to recommend that the council consider a different alternative other than what has been within the range, and so we did not have an alternative in there to look at an August 1 opening, and so, if they wanted us to analyze that, they would have to give us direction to include it, and then we would have to do analysis, and that's where the delay would come in, but, if the AP were to recommend no action -- There is still another action in this amendment that would have to go through the rulemaking process and all that, but I would suspect that, yes, it would probably speed things up, and there

would be less to analyze, and it would be an easier thing just to remove that three-day threshold limit, but I don't know.

MR. HUDSON: What would be the group's pleasure on that? I mean, it sure sounds like we don't want to lose our season, and that's a fact, and, at the same time, we're not going to have the numbers until next July that are going to be totally verified to be able to be utilized, if we could get an operational assessment to start, and we're not going to change the total allocation until we get something done, whether it's an operational or whether it's that research track.

MS. BROUWER: You wouldn't lose your season. If the amendment were to go through with this change, and the amendment would be in the rulemaking process, the commercial season would still open that second Monday in July in 2020 while the amendment is in the process of being implemented. Like Roy said, I don't know that this amendment, if this were to go through the way it is right now, would be implemented before May 1, and my sense is that it probably would not, but you would not lose your season next year.

MR. HUDSON: That means that the recreational wouldn't open on May 1 either, and so status quo sounds like an option that makes fiscal sense, even though I don't think we want to be fishing where the recreational are fishing on May 1.

MS. MARHEFKA: Rusty, I'm inclined to think that, really, there's not a whole lot else for us to really do here. I think the council -- We talked about it, I think at our last meeting, and the council heard what we talked about, but the council had to -- What I'm satisfied is that there was discussion, and they came back with rationale that, even though if it's not always the way I think, it was clearly well fleshed out, and I haven't heard anything compelling here today to make me think we have presented something new that the council is going to change their minds, thus slowing things down, and so it seems to me like maybe we're beating a dead horse a little bit at this point, and we should stick with status quo and let the thing ride.

MR. HUDSON: So even if we got an operational assessment started sometime around July or so of next year, we're still looking at 2022 before we have those results, or 2021, and probably a nine-month cycle, and then the council has to see it, and the SSC, and then the projections and the council and everything else, and so I don't want to rock the boat. I would think that a motion to either stay with the no action, if it's not going to be much of a problem, like you were saying, Myra, but I don't want to add anything in there that will hurt everybody, because what's the default? If we don't get it done, we're still at a July opening.

MR. HULL: Okay. Anything else?

MR. HUDSON: Yes. We can at least get more gonad samples if we have a sampler in July.

MR. HULL: All right. With nothing further here, we're going to take a ten-minute cookie break. Be right back, because we've still got time, and, if you all want to get out of here on Friday, so you can get back to work, we want to jump back into the next amendment and at least get started on it before we break for the day. Thanks.

(Whereupon, a recess was taken.)

MR. HULL: We intend on stopping at five o'clock, and so the next -- We'll dig into this, and, of course, we can go back in tomorrow, and so Number 9 is Regulatory Amendment 34, Special Management Zones in North Carolina and South Carolina. Myra is going to give the overview, and so take it away, Myra.

MS. BROUWER: Thank you, Jimmy. This is Attachment 8 in your briefing book, and this is another summary document that looks very similar to what the council saw in September, and there was not a whole lot of time to prepare much different, and so a little bit of background. This is something that started happening in March.

In March of this year, the council received a request from first North Carolina for designation of thirty existing artificial reef sites in federal waters off of North Carolina, to designate them as special management zones. South Carolina subsequently submitted a request for an additional four sites in their portion of the federal waters, and so the SMZ designation, special management zone, was something that was put in place at the very beginning of managing the snapper grouper fishery in the South Atlantic, and so it's part of the plan that was put in place in 1983, and the intent was to utilize existing artificial reef sites that had already been permitted through the Army Corps of Engineers to be an artificial reef and to designate them as special management zones, which would allow states to request specific restrictions on fishing gear at this sites, and the idea was to basically allow equal access to resource users to those areas.

You can see there, in italics, it's straight out of the amendment, and the intent was to create artificial reefs and fish attracting devices that would increase biological production and/or create fishing opportunities that would not otherwise exist, and so the request came in, as I said, from North Carolina and South Carolina. North Carolina does not currently have artificial reefs that have been designated as special management zones, and South Carolina does. They have twenty-nine sites, and I think South Carolina and Georgia were the first states to utilize this procedure and designate artificial reefs as SMZs back in 1987 or something like that, and so it's been a while.

The council took up this amendment in June, or rather it was mainly in September. The request came in in March, and we talked about it in September, and the council reviewed the options that I am going to show you here in a second and directed us to conduct scoping hearings, and so we're in the process of -- Well, we've actually just finished scheduling those, and they're going to be held at the end of this month, October 28, 29, and 30, and we're going to do webinars, and so I'm going to present what's being proposed.

There's going to be three listening stations in North Carolina, basically to inform the public that this is likely going to be happening, and the council then is going to meet via webinar in January of 2020 and review those comments, and then the idea is that, in March, they would come back and approve this amendment for public hearings, and so then we would do another round of requesting comment, and then, in June of next year, the council would consider that public input, modify the amendment, as appropriate, and then approve it for formal review.

I am going to walk you through the proposed actions, and so, right now, there is really only two alternatives. Right now, like I said, there is no sites off of North Carolina that have this designation, and the alternative is to go ahead and establish these thirty artificial reefs as SMZs, and, within those management zones, efficient gear would be prohibited, and so we're talking bandit, pots, sink nets, longline, and so the only allowable gear would be handline and rod-and-

reel and spear. All harvest by spear would be limited to the recreational bag limit, and so that was the request that North Carolina has brought to the council.

Among the rationale, the justification that was provided in the request, as I said, these SMZs, or these potential SMZs, artificial reef sites, are located near all the maintained inlets in North Carolina, and so they're very accessible, and the concern there is that that opens them up for exploitation and that gear that is very efficient has the potential of removing large quantities of snapper grouper species. By limiting the allowable gear to the recreational bag limit for spear, that would sort of alleviate some of the concerns that we have already talked about regarding species that have complex life history, such as hogfish, where, if you go in and remove the largest individuals, that sort of disrupts their social structure and reproduction.

Another item of rationale that was brought forward had to do with derelict fishing gear, and that is posing some concerns, specifically with protected species, and, by limiting the amount and the types of fishing gear that is allowed in these areas, that would alleviate some of those concerns, and so I'm just going to go through the actions, and then we can have some discussion. For North Carolina, that is what is being proposed, and I will show you some maps here in a minute. They are kind of very low-resolution, and we're hoping to have some better ones to show the public, but at least you will get an idea of what we're talking about.

As I said, off of South Carolina, there is currently twenty-nine sites already established, and this amendment would put in an additional four, and, within the SMZs off of South Carolina, the gear restrictions would be a little bit different, in that all harvest of snapper grouper species would be limited to the applicable bag limit, recreational bag limit, and that's already how it is for the already established twenty-nine sites, and so this would just extend the same regulations to these four additional sites.

We have a table with all the coordinates, and so, off of North Carolina, there is three of the proposed sites that you can see here, and they range in size, and they're actually not very big, and so the radius here is in feet, and there is -- So it's sort of a circle around a point, and that is what has been permitted through the Army Corps of Engineers, and so there are circular sites, and so they're not very big, and I believe the biggest one is not more than a couple of square miles, and these are the ones that are above Cape Hatteras, which the council, our council, manages black sea bass only to Cape Hatteras, and the Mid-Atlantic Council manages black sea bass from Cape Hatteras north, and so there would have to be some -- Our council couldn't put any restrictions on gear that is for the black sea bass pot fishery, and so that's just one thing to point out. There is a few more over here, off of Cape Hatteras here and Ocracoke Inlet, and then there is a few more off of Cape Lookout and two that are closer to shore over here, and this is the last of them.

The idea, when we go to scoping at the end of the month, is we're going to try to get some information on how these areas have been used and how they -- Because, currently, there is not a whole lot that we can use in order to analyze potential impacts of the proposed regulations, and so we expect, or we hope, to get information on who is using these areas, what types of fishing gear are being used, are folks going out there predominantly to target a specific species, anything we can get to inform -- So we can make an evaluation of potential impacts.

Another thing that I should tell you is, once an area is designated as an SMZ, it pretty much automatically becomes essential fish habitat, and so that allows the council a little bit more

leverage when it comes to commenting on projects that are non-fishing-related, for example offshore energy development or oil or whatever, and so, if we designate these areas as SMZs, then they also become essential fish habitat as well.

These are the ones off of South Carolina, and so there's just the four of them, and the first three are the same sort of structure, and so they're a lot smaller, and they're only -- The radius is 200 yards from a central point, and then there is one that's a little bit larger that has been designated with four corner coordinates, and here is the map of where those would be off of South Carolina, and so this one over here off of North Myrtle Beach, and this one you can barely see it, and it's like right above the "a" on that label. Here is the other two, and so is off of McClellanville, near Bulls Bay, and then Little Country Anglers Reef down here.

Here is a better idea for you for the percent of the area, in square miles, for each of these sites, and so these are the ones that are currently in place, and they constitute about forty-one square miles off of South Carolina, and so the four that are being proposed for designation, total, are a mile-and-a-half, 1.5 square miles, and then for -- I think I skipped over North Carolina. Here it is. In total, the thirty SMZs, or the thirty artificial reefs, that are being proposed for designation in North Carolina constitute a total of eight square miles.

That is what the council is looking at, and there is also -- Here is the appendix, and it basically just has the actual wording of the SMZ designation process that is in the FMP, if you care to look at that, and so that's also included, and so the AP has a chance to comment on this and make whatever recommendations to the council at this point. I would remind you that it's very early in the process. As I said, there's going to be a round of scoping and then a round of public hearings in the spring, and so you will likely see this amendment again, possibly at your spring meeting.

MR. HULL: Okay. Are there questions or comments or concerns?

MR. COX: Myra, on the distance, I couldn't tell. Is that in square miles? Is each wreck considered a quarter square mile, and is that what it was, when you were coming up with the map on the total radius, I mean the total area of protection?

MS. BROUWER: In total, for North Carolina, it's a total of eight, but each one is about 0.24 square miles.

MR. COX: So that means you have to stay a certain distance from the wreck? Do you know what I mean? Like what is the buffer?

MS. BROUWER: I asked Steve Poland the other day whether North Carolina intended for there to be a buffer, and the request, as it's been submitted to the council right now, does not include a buffer, and neither does the request that came from South Carolina, and I don't know if that's going to change. The states have the chance -- If they want to change that request to include a buffer, they can do that if they want, but I don't know. They are small areas, and I know that the ones I think off of South Carolina have been marked with buoys, and they've been in place for some time, but they simply don't have the SMZ designation on them, but they are marked, or at least in South Carolina they are.

MR. COX: So does it prohibit all fishing?

MS. BROUWER: This is just for snapper grouper species. In South Carolina, the existing SMZs limit recreational harvest of snapper grouper and coastal migratory pelagics to the recreational bag limit. In North Carolina, the way it's been requested, it would be just for snapper grouper species, and the restriction on harvest, specifically, would be for spear, and that would be just recreational bag limit quantities.

MR. COX: So you could go there and you could catch fish, the bag limits, but you can't do -- So, basically, it's affecting more commercial than recreational, is what you're saying.

MR. MCKINLEY: My understanding was that you could still commercial fish it, but you could not use bandits, which all the ones off of southern North Carolina, except two of them, are where nobody is using bandits, and they're not even commercial spearing, because they're all -- They're real close inshore. I'm not sure about the ones up north, and so, really, as far as southern North Carolina, really, this thing is not going to really impact it much, although it does show the concern that the council has for spearfishing overall.

MR. COX: I get the gear restriction, where you can't have the pots, and that makes sense, and no spearfishing on it, but it's -- What do we call this? What type of SMZ is it?

MS. BROUWER: It's the regular kind.

MR. COX: The snapper grouper guys, we have the Yancey wreck just inshore of the Big Rock that we do really good on catching b-liners. Not right on it, but offshore of it and inshore of it a little bit, and then so they would still be able to do that, even with their bandits.

MS. BROUWER: As long as you're not inside the SMZ, my understanding is yes, but I don't know about that buffer. That still has to be worked out.

MR. COX: Thank you.

MR. MCKINLEY: Is 305, the Yancey? I'm seeing it's like one mile or something, and that's the only one that I could envision, because there's so much rubble that's been put around there.

MS. BROUWER: These maps are what I have to show you at this meeting. I will hopefully have some better ones, and so this is the southern portion of North Carolina. If we move up, here is just a handful.

MR. HULL: Kerry, you had your hand up?

MS. MARHEFKA: I think you've cleared it up, and I want to make sure that I understand. In North Carolina, you can still catch commercial quantities, but just with the less effective gear, and I would be curious -- I don't have the -- It doesn't affect me at all, but I would just be curious, because it's similar in South Carolina, and you're limited to the bag limit, but, if you were to say stop on your way out on a fishing trip, if you were moving offshore and you stopped and commercially fished, and say you were in your bandit boat, but you were using a Reely-rod, is there a gear -- Is there some kind of way you can disengage your gear so it's clear you're not doing it? I don't care, but I'm just curious how that will all be written.

The second thing that I wanted to say was that, in addition to them automatically being designated EFH, or effectively being EFH, I believe these would all then fall under the purview of the System Management Plan Workgroup and then be, in theory, set up for monitoring and evaluation and law enforcement reviews and such, and so, in a lot of ways, we would really be getting to see what these areas are doing, which would be a positive thing. The artificial reefs in South Carolina have definitely been a positive, whether we get to fish on them or not, and they're positive for our state, and so I think the SMZ designation for North Carolina will be a positive for these areas as well.

MS. BROUWER: Thank you for bringing that up, Kerry. We did bring up to the council the SMP, the system management plan, because they have stated their intent that they want to have a system management plan for all their managed areas. However, in September, they did not give us direction to begin on one right now, and we're still trying to sort out -- One of the things that has happened is this process, like I said, has been in place for a long time.

The fishery has changed a lot since then, and there is a lot more people out there, and we don't have, like I said, a lot of information on how these areas are being used currently, and so my suspicion is that there will eventually be an SMP put together, but we just need to get a little bit more information, and then one of the things that those of us that put together the amendments for the council, council staff and NMFS staff -- One of the questions we had is do you really want to have this blanket designation for thirty areas all at once, or do you want to go one-by-one, and, obviously, that's a lot of work, and it's a lot of analysis that would go into place, and we just don't know that we have enough information to actually go about it that way, and so these are just things that have come up, just for your information, but we're working through all of that.

MR. LORENZ: I would like to speak to this, taking a few minutes in a little bit of detail, having followed this for a very long time, or at least the ARs, and they are near and dear to the recreational fishermen in North Carolina, and there's a bit of story that goes along with all of this. I really compliment our current Director of Marine Fisheries, Steve Murphy, for bringing this forward.

One of the things that has happened over the years -- Well, for instance, in our ARs, the buoys are gone. That was a decision made a few years ago, because money was not available, and our General Assembly is basically decimating our DMF over time, every year, and talk about no funds. They have to do more and more with less and less every year, and one of the things that has started to happen was the recreational fishing license, of which there are 800,000, that probably brings in $10 or $11 million of money a year, and that is more and more being used to fund absolutely everything in fisheries for the DMF, or that's anything new, and they come up with proposals and things every year, research, and it can benefit either side, commercial or recreational, and usually it's both, and that is being funded exclusively, pretty much, by the recreational fishing license.

In fairness, if we want to talk about being fair, I would like to appeal to you to that, to consider endorsing this, because these are paid for now by user fees upon the recreational fishermen, exclusively us. The commercials have had their fees increased, but, as you know, in North Carolina, we have an inshore gillnet fishery, and so the fee -- Their increased fees, and they get control over this, has been used to maintain the inshore flounder gillnetting, which costs about a million dollars a year, and it nets -- It's about a $2.3 million ex-vessel price for the fish, and so imagine yourself, and you're a business person, and 50 percent of your money must go to meet

regulations, and so that's what is happening. Increasingly, more and more is falling on the backs and the money of the recreational fishermen.

To go back in the story, our previous Director of Marine Fisheries, Louis Daniel, a few years ago, stopped any work for the artificial reefs that would be in the EEZ, the reason being claiming he had no control over them and how they were being used, and he really pushed that anything he would have supported back then would be the inshore reefs, of which we have a lot more going on.

Going forward, to get any more positive traction with more ARs, and I think Steve made me think of this, it's going to be money taken out of the recreational fishing license funds, and so I just appeal to you there, in fairness, and why not support us having these SMZs? It does not say commercial fishing cannot occur on it, but it's just going to eliminate some of the more efficient gear, and I have never seen a bandit boat on any of these that I have gone to, but it would limit -- I have seen dive boats go on it and commercial larger dive boats hit them, and so this would allow -- If you have a snapper grouper permit, or anyone that wants to fish rod-and-reel could probably commercially fish them, and that's not what this is asking for, but, other than that, the divers would be limited to the recreational harvest, and, for the most part, these would kind of be skewed towards favoring the recreational fishery, which is really going to pay for any that are in the future, as far as I can see. Thank you.

MR. COX: Thank you for all of that, Bob. Some of those deeper wrecks, like off of Morehead, we're using them for the amberjacks, and we'll get on them, and so we'll commercially rod-and-reel the amberjacks on them, but we can -- It would be confusing, and I think recreational guys would see you out there commercial fishing on it, and so they would be like, well, you can't be here, and so then there would be this enforcement deal, but I get it with the spearfishing and the pots. I just would be concerned about us losing access when the jacks get on them, and then we fish over the top of them.

MR. HULL: Okay. Anybody else got some comments or concerns or questions on this? The only thought that I would have is, once these are in the EEZ, it's kind of like it doesn't really matter who put them there. I mean, they're in the EEZ, and the Exclusive Economic Zone belongs to everybody in this country, and then the other concern would be, from what I know, North Carolina, as far as enforcement -- I don't think they have a joint agreement with the federal agencies to enforce anything on these, and so -- But those are just some thoughts that I had.

MS. BROUWER: That's all I had. Mainly, it was just to give you guys a chance to comment, if you wanted to, and to let you know these hearings are happening, and so you'll probably be seeing this one again at your spring meeting.

MR. HULL: Hold on one second. Red and then Bob.

MR. MUNDEN: Thank you, Mr. Chairman. Going back in history, much, much further than Bob Lorenz went, I would like to share some historical information about the North Carolina reef program, before we adjourn, and our program started back in the late 1970s under the Division of Marine Fisheries, under their supervision or leadership. Prior to that, some private fishing clubs created artificial reefs, and I believe they had permits that they got from the Corps of Engineers, and, in 1986, the division was reorganized, and the artificial reef program came under our

supervision, along with several other programs, and I was responsible for artificial reef construction, supervision of artificial reef construction, and monitoring as well as permitting.

One of the things that we did with permitting is we contacted all of the fishing clubs who had permits, and we were to get them to transfer those permits over to the North Carolina Division of Marine Fisheries, and so, to this time, to this day, there are no privately-permitted artificial reefs in state or federal waters, to my knowledge, and, before applying for a permit, we would hold public meetings, and I recall that we had -- We invited commercial representatives, particularly the trawl boat fishermen, as well as gillnet fishermen and recreational fishermen to attend these meetings, and there was very, very little opposition from either sector relative to the construction of the reefs.

The commercial trawl boat operators pretty much said we know where all the hangs are anyway, and, with the electronic gear we have, which is improving daily, we can find them, and so, over the years that I was involved in that program, which was about three years, the greatest complaint that we had, and it continued to occur after I moved to other positions in the division, was of black sea bass pots being set on the reefs, and, as I recall, the sea bass pots were being set during the winter months, and there wasn't a lot of recreational fishing going on at that time, and so the rec guys didn't complain a whole lot, but we were concerned about the potters coming in and just wiping out the black sea bass that could be found around the reefs.

One of the things that I did, before leaving the artificial reef program, was I hired a young man from the State of South of Carolina artificial reef program by the name of Steve Murphy, who is now the Fisheries Director, and Steve did a great job, and he took over the reef construction and permitting responsibilities and whatever, and so, after looking over Steve's letter, I would say that I support this, and one of the reasons that there's been an objection to SMZs in state waters, or something similar to that, is because we used public funds for construction of the reefs until the recreational fishing license money became available, and we used the money that we got from federal grants for buoying and marking the reefs, but, over the years, it's been more and more expensive and more difficult to keep the buoys on the reefs, and so now I believe that they are basically going with GPS coordinates, rather than trying to keep the buoys out there, and so that's just a brief history, but I would say that I very much support the request by the Division of Marine Fisheries for SMZ designation of these sites.

MR. HULL: Thank you, Red. Roy would like to comment.

DR. CRABTREE: Well, I just want to give you something to think about, and this kind of comes from my experience with artificial reefs in the Gulf of Mexico. If you look at the coast of the Gulf of Mexico, particularly off of Alabama and parts of the Panhandle, there are artificial reefs virtually everywhere, and what we've seen in the Gulf of Mexico is, when you look at the catch rates of things like red snapper and amberjack and things over artificial reefs, they are ten to twenty-times higher than the catch rates over natural bottom and things, and so these artificial reefs are concentrating and aggregating fish.

Often, they are aggregating them closer to shore, and they are easy to find. Nowadays, there's no secrets out there anymore, and, over the years, what happened in the Gulf of Mexico is three species that we've had real problems with very short recreational seasons, and those were, of course, red snapper, amberjack, and gray triggerfish, and I suspect that most of -- I bet you that 80

or 90 percent of the recreational catch of red snapper in the Gulf of Mexico comes from artificial reefs, over them, and, if you look at this small stretch of shore in the northern Gulf of Mexico, off of Alabama and part of the Florida Panhandle, about 70 percent, 75 percent, of the entire recreational catch comes from a very small area.

My concern with artificial reef programs is that we talk about them as management tools, fishery management tools, but we really don't treat them that way, because we just seem to put them out, and they do make for great recreational fishing, right? I mean, they concentrate the fish, and you catch fish over them, and what you need to think about is what I've seen in the Gulf is too much of a bad thing can lead you to a very bad place. You get to a point where -- There are arguments, in the Gulf in particular, that they increase productivity in the stock, because you're building habitat, and you're increasing productivity, but most of the estimates of how much they increase productivity are pretty small, pretty marginal, amounts.

What you're doing is maybe you're getting a little more stock productivity, but you are really increasing the catch rates, and so, over the years, what we've seen is the equipment gets better, and the electronics get better, and the boats get better, and the fishing power of the recreational fleet has really gone up astronomically, and putting artificial reefs out there increases that catching power even more, and so we need to start thinking more about how many artificial reefs do we want and where is the balance of having good fishing, but not overdoing it to the point that the quotas are getting caught up so much, and I've seen that happen in the Gulf. Not so much in the South Atlantic, but we do have a very short red snapper season, and so I get that's something -- Because I don't think we often think about it, that they can create issues on their own, and so food for thought.

MR. HULL: Well, thank you, Roy, but these reefs are already there, and they're not going to be constructed, and so they're already in place, I believe, but I get your point about more and more of them, and so thank you.

MR. MANIGAULT: I was just asking my colleague next to me -- When we create these artificial reefs, are we pulling fish from live bottom to these reefs, or it's pretty desolate area that they're actually creating these reefs in?

MS. BROUWER: In general, the reefs are put out on areas that are mostly sandy bottom, and the idea is to create some sort of relief that will attract fish, and there is different types of material that are used, and some are -- There is tires out there, and there is all kinds of material that gets put out.

MR. HULL: I think that's still an open question, as to if that's happening and whether there is larvae settling on it. As Roy stated, is there is some productivity increase in biomass from new habitat, or is it just drawing existing carbon to that site?

MR. MUNDEN: Another quick point. The permits that we received from the Corps of Engineers, once I started the program, or I joined the program, and the ones we renewed after that specifically prohibited the use of any kind of tires, and here we are now, thirty years later, and tires are still coming to the beach that were put out previously, and one other comment, Mr. Chairman. I remember the public hearings that we had, or public meetings, and one of the commercial fishermen said that the Germans and the good Lord have created a whole lot of artificial reefs, and it won't hurt to have a few more made by the State of North Carolina.

MR. LORENZ: **I would like to make a motion with respect to Action 1, and I won't speak for South Carolina at this time, and I request that the council designate the thirty current artificial reefs within the EEZ off of North Carolina as special management zones. Restrict legal gears to handline, rod-and-reel, and spearfishing gear and limit spearfishing harvest to the recreational bag limits.**

MR. HULL: Bob, watch what's going up there and guide us and make sure that it's saying what you want it to say. I will go ahead and read it, and then, Bob, you can see if this is what you're looking for. **Request that the council designate the thirty artificial reefs within the EEZ off of North Carolina as SMZs. Restrict legal gear to handline, rod-and-reel, and spearfishing and limit spearfishing harvest to the recreational bag limit.**

MR. LORENZ: Correct.

MR. HULL: I saw a second from Red. Is there discussion or questions?

MR. COX: If you've got the word "recreational" in there, can we put the word "commercial" in there and say that we allow commercial handline fishing? That would be something easy for enforcement to understand, because, to me, if I was an enforcement guy, and I was reading into that, it would kind of be almost like a recreational -- **So we're saying it's okay to commercial handline in there, and can we put the word "commercial" in it and incorporate that, and it's okay to commercial rod-and-reel fish in the motion?** I am just saying -- Because it looks, to me, like it's a recreational motion, and it makes it confusing, I think, to enforcement.

MR. LORENZ: **If that's so, Jack, I certainly agree with what is in the parentheses added to my motion, for clarity.**

MR. COX: Thank you very much.

MR. HULL: Now we're going to have to get a second on that. Red seconds it with the parentheses in there.

MR. FREEMAN: It's not clear to me, with what's up there -- What is Jack's limit going to be for it, rod-and-reel fishing?

MR. HULL: I think it's going to be whatever commercial limit is in place, and so he's just not going to be using the effective gear. He's going to be using rod-and-reel gear, unless he's spearfishing commercially, and then he's going to be limited to the recreational bag limit, and that's the way I see it, and is that correct?

MR. FREEMAN: I would prefer some language to clarify that, so that there's not a legal issue later on if somebody wanted to aggressively pursue him sitting there and pulling twenty boxes of b-liners off of a hot spot there on that wreck, and the other guys with a rod-and-reel can only have five fish.

MR. HULL: All right. I guess that I would go back to the original maker of the motion and see if he wants to change, because that's not what he said in the motion, and so I think he was saying

allow commercial harvest up to the commercial bag limit, and I think that was your intent, and was it not?

MR. LORENZ: Yes, Robert. My intent is -- Again, I like to look at this also with total fairness. When these were originally set up, historically, and there haven't been any for a long time, but they were set up to be open for all kinds of fishing, and, if we listen to what Roy said -- At this point, going forward, I can almost assure you that there will be no new ones, unless it's paid for by the recreational fishing license, which does cater to recreational fishermen, but, at this time, the thirty that are there, in the interest of fair play, would be open to a commercial boat going out there, as long as they are going to handline it and rod-and-reel fish, and that was the intent of mine. Yes, it would allow those few commercial that may go out there to be able to do that. If they want to rod-and-reel sea bass, go ahead. As far as I was concerned, with my motion, I want it clean like this.

MS. MARHEFKA: Guys, I don't think we need to wordsmith this too much, because we're really, really early on in the process, and the council is going to see it, and there's legal people who are going to make sure -- I think, as long as the intent is captured, and, from what I'm hearing from everyone that has spoken, basically, we all agree with Alternative 2, which is designate them -- It's everything you said, commercial hand and recreational hand, just with those gear, and so I don't think we need to worry too much about exactly what it says, because that could change nineteen-million times. We don't even know what's going to happen when the council gets it, and it seems like the intent has been captured here pretty clearly.

MR. COX: Just one last thing that I was going to say. As time has evolved, Red, since you were involved in the program, a lot of these artificial reefs are getting further and further out into deeper water, and so some of these places, where like the Aeolus is, or where the Hardees Reef is, or the Yancey, were places that are hard bottom that we were already fishing on commercially, and so I'm just saying that it would only be fair to have that interaction still that we were fishing on before the reef was put there, and I was just trying to capture that.

MR. HULL: All right, and this is good discussion. Go ahead, David.

MR. MOSS: I have kind of a semantics question that somebody brought up to me. From a rod-and-reel/handline perspective, and I'm assuming that we're talking about eliminating bandit reels, right? My question would be, from a recreational perspective, there is numerous, quote, unquote, electric reels out there that are either electric assist, or it's still technically a rod-and-reel, but they're electric reels, and how is that defined? Again, I understand that that's kind of a semantics question, but how is that defined, as far as this goes, and I know that that flies in the face of what Kerry just said, but I'm curious.

MS. BROUWER: I don't know that that's been discussed, and so, if that's something that is of concern, that should get fleshed out in this amendment, then that's certainly something you can bring up.

MR. MOSS: Well, I'm just asking. Like, as this moves down the road, and I'm assuming that most people here are going to hope that it does, it sounds like anyway, how do we define that, and what is the definition of a bandit reel versus an electric reel on the recreational side and so on and so forth? That is something that I think that we're going to have to look at eventually.

MR. LORENZ: I am with you, David. One of the things that I have thought of, as we've been here, would be at some time, and we're getting to parcel up the fish in so many ways and in so many gears, is what is a recreational gear and a commercial gear, and so, to me, personally, I don't view, in the area that these artificial reefs are, I don't feel that electric reels are appropriate for recreational fishermen, personally, except maybe by someone handicapped or small children, and that would be a commercial gear, to me, and, if a grouper fisherman is using that for commercial gear, fine, but that's just my personal opinion, but that's a whole other thought process later, and I know that I've thought of it in certain things, that we may get to that kind of designation someday.

There may be some of these deepwater species that why even worry about the recreational fishermen? I mean, if you're looking for things like efficiency in management, why worry about how many wreckfish are caught by recreational fishermen? If you can't use an electric reel, there is no way in heck that we're ever going to be able to go after one.

MS. BROUWER: Okay, and so it sounds like maybe clarification on the definitions of the various fishing gear types might be a good thing to include in the amendment, and so I will make a note of that, but, in the meantime, I can read you how a bandit gear is defined in the Code of Federal Regulations. Bandit gear means a rod-and-reel that remains attached to a vessel when in use from which a line and attached hooks are deployed. The line is paid out from and retrieved on the reel manually, electrically, or hydraulically, and so that's the official definition of "bandit gear".

MR. HULL: David, I know what you're describing, which is an Electramate or a Kristal that's held in somebody's hand, probably an Electramate, and, I mean, they can hold it, and they don't even have to -- I mean, you can hold that Electramate and use it electronically.

MR. MOSS: Well, the only thing I will say to that, and I don't want to get too deep in the weeds with this, because I know it's late, and everybody is probably looking at me like what the hell is he talking about and why are we still here, but, even with some of these, quote, unquote, bandit reels that I know we say are permanently attached, they're really not, and they can come off.

Like I said, I know a friend of mine who is a commercial fisherman who can take his on and off, and it's technically not permanent, because he can take it off, and so, I mean, I'm kind of speaking lawyer-ese there, I guess, but, like I said, I think it's something we're going to have to address at some point, and it goes back to what Roy said about technology getting smarter and smarter and better and better every day, and we're going to have to really take a hard look at a lot of this stuff.

MR. HULL: Okay. We have a motion to deal with. I am going to go ahead and read it one more time. **With respect to Action 1, request that the council designate the thirty artificial reefs within the EEZ off of North Carolina as SMZs. Restrict legal gear (commercial and recreational) to handline, rod-and-reel, and spearfishing and limit spearfishing harvest to the recreational bag limit.**

MR. FREEMAN: I want to play the devil's advocate one more time. The fact that you have specified that spearfishing is restricted to the recreational bag limit suggests to me that these other types is not restricted to that. The fact that you chose to single out that one type is confusing.

MS. BROUWER: You are correct. That is in fact what the request from North Carolina is, and so you can still retain commercial quantities of snapper grouper species, as long as it is not with spearfishing gear or with highly-efficient gears, the bandit and the other ones.

MR. HULL: Okay. Are you ready to have a vote? We read it. **All those in favor of this, raise your right hand, eleven; all those opposed; all abstentions. The motion passes.** We are now going to adjourn for the day, and we will see you at 8:30 in the morning.

(Whereupon, the meeting recessed on October 10, 2019.)

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OCTOBER 11, 2019

THURSDAY MORNING SESSION

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The Snapper Grouper Advisory Panel of the South Atlantic Fishery Management Council reconvened in the Town & Country Inn, Charleston, South Carolina, October 11, 2019, and was called to order by Chairman Jimmy Hull.

MR. HULL: Good morning, everyone. Welcome back to the last session. We're going to dig right in here this morning with the MyFishCount update, past and future, an overview with Dr. Chip Collier and Myra Brouwer. Take it away.

DR. COLLIER: Thank you, Jimmy. I am going to be going over the past, and Myra will be going over the future. What I'm going to be presenting on today is we got a grant from National Marine Fisheries Service to really look into what recreational reporting and permitting could look like, and we did that through MyFishCount, and so this is a report that we supplied to the National Marine Fisheries Service for the two years of funding that we got, and there is continued funding, and so Myra is going to talk about what we're doing this year and in the future.

It's a pretty long report, and it has several different sections to it. If you just want to get a quick summary, there is an executive summary to it, and it's about -- It's a little over a hundred pages. The last fifty or so are just code, just in case somebody is interested in what was used to analyze the data, and so that's there, and there is also code for -- There is an app we have for that as well, so people can look at the data that's being reported in MyFishCount, but, today, I'm just going to go over a few sections of it, the app development, the app structure, the promotion of the app, a few of the results, and then some discussions and conclusions, but, if you're really interested in it, there's a lot more information in that report, and we can talk to you about other things that you might find interesting as well. We have the data, and so we can analyze it in any way that you might have some ideas for it.

Starting off, you guys talked about this a little bit yesterday, but it was really designed around the red snapper seasons, and so you can see that in October of 2017 is when we were really trying to launch this for the November 2017 red snapper season. In that star, that's when the red snapper season occurred.

You can see that it was pretty level from late 2017 all the way up through May of 2018, and that's when we were really developing the app. Prior to this, it was a webpage that was available for people to report on, and, primarily, they reported just red snapper. They could report something that was called "other fish", just because we didn't have enough time to really develop a really good webpage that allowed you to report everything on the catch, or everything on the trip, and so we kept it simple.

Then, back in May and June of 2018, that's when we launched the real MyFishCount, and you can see that there was a spike in the number of users as well as that coincided with the red snapper season. We had a lot of publicity at that time, and a lot more people joined the app. Since then, we've had a continuing trend of people getting on the app, and you can see that, from July of 2018 to May of 2019, another 200 people have joined.

In order to promote the app, we used multiple methods. We found, in the survey that we did with UNC, as well as our own experiences, that there's not one single method that's going to communicate with all recreational anglers. You're going to need a variety of techniques, and we used tackle shops, and they encouraged us to do some presentations at the tackle shops, generally a week to two weeks prior to a season opening, in order to get the best results. We also attended fishing clubs, and we attended scientific and management meetings, and these are important, in order to make sure the information that we're gathering are going to be used by scientists and managers, and we want to make sure it's relevant. Then the last thing that we used was social media. Getting the word out there and letting people know about it is very important.

Generally, what we found with this, and what iAngler has been seeing with this, is it takes more than one contact in order for somebody to adopt using something like this. It usually takes three contacts with them, and so it's going to be difficult, and it's going to use -- It's going to need a lot of work, but it does work, and you can see there is people attending one of our presentations at West Marine down in Florida, and then we have the app developer, in the bottom-right, Abhi, along with Kelsey Dick and Mike Christopher, and those are all three of our past partners that we really relied on in order to make this app work.

The app structure is very simple when you kind of take a step back, and it's start a trip, log your catch, end a trip, and, in each of those segments, we wanted to keep the questions to less than ten, and so, on the start a trip, I think there's nine questions of log catch, and I think there might be ten or eleven questions there, and then, for the end of trip, there was six questions.

Log a catch, that can be repeated several different times, and there is different techniques in order to log your catch, but it's very simple for somebody red drum fishing that might catch three a day. For somebody like you guys, where you're catching snapper grouper species, you can catch forty to fifty fish in a day, and so it takes a little bit more time, but there is a quick log function, where you can log up to ten fish at a time.

Getting into some of the results, much of our information was collected, as I said, during the red snapper season, and, since that was occurring, most of the trips occurred off of northeast Florida. We had 704 trips that were reported, and the top five departure cities were off of Florida. The main city in South Carolina was Charleston, and the main city in Georgia was Savannah, and the

main city in North Carolina was Wilmington, and those are all the largest populations in those areas, and so it makes sense that that's where we're getting most of our reports.

This one was something that I found pretty interesting, and what we're looking at here is the number of anglers on a vessel from a private or a public dock, and, if it's in red, or darker red, that means it's more negative, and so that means fewer than expected, and, if it's a darker blue, that means more than expected, and so, looking at this private dock here, you can see that two people on a vessel was much less common on a private dock than a public dock. Then, when you come up here, to six anglers, it was much more common to have people on a -- It was much more common to have six anglers on a private boat, leaving from a private dock, marina, than it was a public, and so that was significantly different, based on some statistics.

We looked at several other pieces of information that might be related to effort. We looked at how long a trip occurs, because there is some indication, for inshore fisheries, that, leaving from a private dock, you are likely to take a shorter trip, and we did not see people leaving from a private dock and taking shorter trips. There wasn't any difference in catch composition or anything like that. It was really just number of people on the vessels from private docks tended to be more, and that's going to be important when you're considering something like a vessel limit. It could be slightly different.

The next thing we looked at was the council had a lot of discussion on days of the week when they were talking about the red snapper seasons, and there was some discussion that, if red snapper is open on Friday, people are going to be taking off and going fishing on Friday, and what we found was, in fact, when you look at Friday, people are willing to take off and go fishing on Friday, and it actually, for the number of completed trips, it exceeded the number of trips that were on Saturday and Sunday, and so people are -- If the weather is nice, they're going to take off and go red snapper fishing.

An important piece that we figured out for this reporting grant was how long does it take to report, and this is an important piece of information for completion of our amendment documents. We need to know what kind of burden we're going to be putting on the public, and so this is the first piece of information that's been collected to really supply that information.

We have two different things that you can do through MyFishCount. You can report an abandoned trip, basically that I was going to go out fishing, but the weather was bad, or my boat broke, or some other reason, and you can supply that information through the app, and, generally, when people did that, it took less than a minute to complete that. Now, if you reported catch, it had a series of -- It ranged from zero minutes all the way up to I believe forty-eight hours, and we didn't necessarily believe that somebody was out on a trip for forty-eight hours, but what we do want to see is some of the people having greater than ten-hour trips.

What that is indicating to us is they are actually going out and fishing and reporting directly while they're on the boat, and that's going to get you the best information. If they were reporting from home, we found that it was generally pretty common that it took five to nine minutes, in general, to report all their catch.

MR. HULL: Okay, and so now I get this. The shorter reporting time, from this, you determine that they are reporting from home and they didn't report where somebody logged in and they went fishing and it took them -- Ten hours later, after they really came back in, they reported.

DR. COLLIER: They could be reporting the whole time while they're out on a vessel, and so, if they went out -- Say they start the trip at the dock at six in the morning, and they go out, and they catch their first fish at eight, and then they report thirty fish along the way, and then they say end the trip when they get back at like six at night, and so that would be greater than a ten-hour trip, and that would be indicating that they were reporting while they were on the vessel.

MR. HULL: The people that have one minute, there's a lot of them, and I'm trying to understand that. So they abandoned the trip as soon as they -- They clicked on that they're going to go fishing, and then, within a minute, they abandoned it?

DR. COLLIER: With that, what you would do you would start your trip, and so, once you start a trip, all this information on this first page is completed, and so you would go right to this end of trip, and that takes less than a minute, and what they're telling you is that I didn't go fishing. It's not that they went out fishing and they're not supplying any other information. They didn't go fishing, and they're telling us the reason why they didn't go fishing, and this is some of the information that was used back in 2017 to reopen in December for red snapper, because the weather was so bad in November.

MR. HULL: Thank you.

DR. COLLIER: Another piece of information that we've been collecting is length of fish. We do have a lot more lengths of red snapper, but I wanted to show other species, because this can be used for several different species, and what I have in the figure here are lengths that were reported in MyFishCount compared to lengths that were reported in MRIP, and MRIP has three different styles of measurements. This first graph here are fish that are actually observed by the port samplers. The second one is fish that were observed by a port sampler as well as fish that were imputed, and so they will use some computer algorithms to increase their sample size for areas that they might be missing lengths, and then the final one is the expansion, and so each individual fish is expanded based on the effort survey, and that's what this last one goes into.

You can see, within MRIP, there are slight differences through the graph, but I do want to point out that this red line is that thirteen-inch minimum size limit for recreational black sea bass, and, in all of these, there are undersized fish in MyFishCount. The fishermen reported undersized fish. The other thing that I want to point out is that, in MyFishCount, there is very few of these really small fish. Now, that could be fishermen not reporting it or, generally, we've targeted snapper grouper fishermen that are offshore, and that's where the larger fish are, and so they just might not be seeing those fish.

The other thing to point out is, in MyFishCount, we have some of these largest fish that aren't present in the MRIP survey. Once again, this could be fishermen that are going further offshore, and that's our targeted audience, and so we might be doing -- We might be sampling more fish out there at the larger sizes, or it could be a biased sample. We need validation to figure this out.

Those were some quick results, and there are many more in the paper, and I believe there's forty or fifty graphs in there, and so there's a lot of information. MyFishCount is a pilot project to demonstrate voluntary reporting, and we're looking at this in the development of Amendment 46, so the council can make better decisions on what private reporting could look like, as well as permitting.

This is a great opportunity for stakeholders to report their catch. They have been asking for this opportunity for many years, and it's now available to them. This data goes right into a regional database that can be assessed by all of our state and federal partners, through ACCSP, and you guys have been hearing about that, and this information has already been used in management, and I talked about the season extension back in 2017, and hopefully it's going to be used more and more.

With electronic reporting, especially in this voluntary sense right now, retention and recruitment is crucial. We need people to be engaged in this, and we need more people to get involved. As we get more people involved, it's going to give us more of a central tendency, and we're going to get better samples, and then, finally, we need validation, to make sure these numbers -- That what we're seeing is accurate and can be used in management.

With that, I wanted to thank, first of all, fishermen. Many of you guys here have used the app, and thank you for that. It provides us with a great source of information. The fishing industry has been behind this, and they support getting better data. The media has supported us as well, and there are several different media agencies that have written about MyFishCount. In fact, the L&H Boats Blog ranked MyFishCount as the number-one fishing app.

The National Marine Fisheries Service went out on a limb and funded this, and it's been great. They have had great supervision, and ACCSP worked with us to develop the database, so that we can submit the data right into the regional database. Our state partners have promoted the app for us, and that's North Carolina, South Carolina, Georgia, and Florida. It's been great to work with them in order to get more data on the recreational fishery, and then, lastly, Elemental Methods, the Angler Action Foundation, and our past South Atlantic Council staff Kelsey Dick. They were very instrumental in getting this off and going and getting a pretty good product out to you guys. With that, are there any questions about MyFishCount?

MR. FREEMAN: In our area, and I guess -- I don't know how far south they go, but there's a magazine that's at the restaurants, *The Fishermen's Post*, and I don't know whether you have contacted them, but they would be an excellent place to advertise that this process is in effect and that it's beneficial to know what you're catching.

MR. MOSS: One of the other things that I was thinking about, and I know it might be cost-prohibitive, but maybe a showcase at like the Miami Boat Show and the Florida Boat Show and things like that, and West Palm. I mean, that's a major customer base down there of a lot of recreational anglers that you could hit, and I know it's not going to be cheap, but it might be worth it, and I would be happy to help out down that way, too.

DR. COLLIER: We have done ICAST. We did that back in 2018 and this year.

MR. GOMEZ: I am just curious. Are the Keys fishermen getting involved? I mean, how are we doing compared to other places? Are you seeing some good response from people signing on to MyFishCount?

DR. COLLIER: We are seeing some people down there. You know, we're really just trying to grow it right now and get more and more information, and so, if you can spread the word, please do. As we get more information, it's going to be better and better.

MR. PASKIEWICZ: Maybe in some of the major tackle centers, like Bass Pro and West Marine and stuff like that. Like, as you check out, or maybe on their receipt, or with their receipt, and you know how sometimes there are promotions stapled to your receipt when they hand it back to you, explaining what the app is and what it does, and that might generate a lot of participation from something like that.

MR. HULL: Chip, I had one comment. For me, this is what we've been asking for, and we've been working on this tool for a long, long time, and it's getting better, and it takes time, but you've done a great job on it, but, for me, I can see this down the road possibly as a way to provide anglers a way to get a count.

I mean, down the road, this could be the way that you get to the recreational sector with some type of a -- Not a permit, but just some way that, hey, you've got to click on here or become part of this app, as someone that -- As a recreational angler that accesses our snapper grouper fishery, for instance, and I know that's probably a stretch or something now, but you never know, with the way things are going, and so, as this develops, it could be the tool that would be counterpart to in our Permits Office sort of idea, that this is how we know the universe, is through this app, and this is the tool that you report on, and this is the tool that, okay, you register on, that I'm going to address the snapper grouper fishery as a recreational angler, and, anyway, I can just kind of see, hopefully, that, for me, that would be ideal.

MR. PASKIEWICZ: Along those same lines, Jimmy, I think maybe an incentive program might be in order. When you get your recreational license for the year, hey, we'll give you a five-dollar discount if you sign up and use this app, I mean, some sort of incentive to get people to want to use it every year.

DR. COLLIER: Thank you for all those comments. Myra is going to be talking about going into the future and some of the outreach stuff that they're doing, and it's right along exactly what you guys are saying. There are some great changes that are coming up in the app, and they're going to be available soon, and I will let Myra go over that.

MS. BROUWER: Good morning. What I am going to tell you about is this third year of the pilot and what we plan to accomplish and what we've been doing in 2019, since we received, as Chip said, additional funding. We hired a person who, unfortunately, couldn't be here today, and here name is BeBe Harrison, and she has a lot of experience in outdoor education. She's been working for the South Carolina DNR for many, many years, and she's a business owner. I sent an email to you all with her contact information, to introduce her, and, unfortunately, she is in Washington State this week attending the American Sportfishing Association Summit, and she is continuing to outreach. She is a really great asset for this project, and so I'm giving this presentation on her behalf. She would have been here otherwise.

For this third year of the pilot, the main goals that we are setting out to accomplish is to increase the number of app users, and that number has already gone up quite a bit from when we got started, and we're at about 1,600 app users right now, and so we also are very interested in getting people to complete their trips. We were finding that a lot of folks would get started, and then they would never actually complete it, and so the trip would remain activity, but it wasn't like a done, completed trip, and so we've been working to try to come up with ways to make sure that people understand the importance of that step, and so I will tell you about some of the changes that we've made to the app, so that that is a lot more intuitive to people.

Some of the things that the National Marine Fisheries Service is interested in determining is what is going to be a good motivator for people to use these tools, and so we're trying to determine what makes them download the app and use the app, and are there any reasons for them to discontinue to use it? Maybe they downloaded, but then they used it once or twice, and then they didn't use it anymore, and so what is it that we can do to make sure that that doesn't happen?

We are seeking input so that we can make improvements to the app, and also the website, and we have received a lot of input from fishermen this year, and we have made some changes that I will tell you about in a minute, and so what BeBe is focusing on is the R3 of recruitment, retention, and reactivation, and so this is outreach speak, sort of, but it's a very common -- It's something that's really gaining a lot of traction these days with agencies.

Then, at the end of this year, for this last phase of the project, we plan to basically hand it off to the Angler Action Network and give them a platform that is going to be pretty solid, with a really good user base, and something that they can just run with, and so that's the goal.

As Chip was saying, there's been a lot of events and things that we've been doing this year. Of course, red snapper season got underway, and so we pushed this very hard, and this was right about the time that BeBe got started working for the council, and she has been to West Marine several times to do like trainings and outreach, and she has talked to folks, and that's been really productive. She did go to ICAST this year, and we had a really good response. She was able to connect with a lot of folks and also industry representatives, and then she started sort of networking and trying to figure out that, okay, maybe there is going to be some incentive programs that are going to be born out of this, and, thankfully, yes, we're headed in that direction, and I will tell you all about that in a minute, too.

She's been to Boaters Exchange and then just doing store visits at tackle and outdoor stores, just sort of talking to people about MyFishCount, and so, this year, for red snapper, here's a few of the statistics that I told you that I was going to tell you about, and so we did cooperate with the four states in promoting the app and reporting during the red snapper season, and that's always very productive.

The largest red snapper that was reported was thirty-eight inches, and the heaviest was twenty-nine pounds. We also got a little tiny guy, eight inches, and that was the smallest that was reported. The largest fish, overall, was a forty-inch cobia, and so people are using it for other species as well and not just red snapper, which we've been really trying to push that this is not just a red snapper app and this is for many, many species, and then other species reported were scamp, dolphin, black

sea bass, rudderfish, black grouper, and red porgy. 360 fish were reported in those few days, and 127 trips were logged, and 268 anglers reported during this year's red snapper season.

We are pretty pleased with those results, and, as far as upcoming events, some more Boaters Exchange trainings and seminar-type things, and we had something scheduled in Florida, at Rockledge, and this was like right before Dorian, and so I believe that's been rescheduled, but the plan is to continue that effort, and that's a joint effort with South Carolina Wildlife Federation, and they are promoting best fishing practices, and so it's a good way to tag-team and just really reach out to a lot of people.

The South Carolina open house is coming up not this weekend, but next weekend, and so we'll be present there, and BeBe and some of the rest of the council's outreach and public information staff were at Georgia Coast Fest this past weekend, and apparently that was amazing. There were about 12,000 people that showed up, and they had a really nice booth, and there was a lot of interest in MyFishCount, and so that was really exciting.

As I said, BeBe is currently at the ASA Sportfishing Summit in Washington State, and she is going to be in Hilton Head later this month, and she has a presentation at the Southeastern Association of Fish and Wildlife Agencies, to promote MyFishCount and also to talk about the project and what we've accomplished in these three years.

Then we're planning additional West Marine trainings, to be paired with local guides and that sort of thing. We find that, if we have a person that is sort of an influencer, a person that can really promote, that goes a long way, and so BeBe has been trying to find those folks, and so, if you have any ideas, make sure that you contact her.

Other outreach ideas, she is putting together an information kit for promotion, and I will tell you what's included in that one, and we have a website update that we've been working on this past few weeks, and we now have a Facebook page, an Instagram page, and she does this monthly update that she sends out via Constant Contact, and we do have an incentive program, and so, this year, for example, the incentive was you had to send in a video clip of you saying, "My fish count and so do yours", and holding a fish, and you send that in, and then we're going to do a drawing, and we have gotten some vendors to donate, and I think like Gillz apparel I think is this month's drawing, and that's being routed through Angler Action, of course, and so we're going to have a monthly incentive, where people can win stuff, to help us promote MyFishCount, and we have received several -- Not several, but many entries so far, and so that's exciting. We're going to do the drawing on Halloween.

There is going to be a training toolkit and a video update, a video to sort of retrain people for how to use the app. Like I said, we've made a good many improvements, and so we're going to have like a little demo video for how to use it, and then we'll continue working with the states on this R3 and other fishing initiatives, and so let me show you this little video.

The information kit, like I said, is going to have some background information, and the idea is just to be able to hand this to people, and they have all the information that they need in order to promote the app. They have images, testimonials, quotes, all of it in one little package, and so here's just a little video.

That sort of thing really gets people going, and so we're trying to get as many testimonials and quotes and things as we can. Then this is like sort of a sneak peek at our new website, what it's going to look like, and so this is going to -- We're shooting to have it go live next Tuesday, and so we're kind of scrambling to put all the tweaks and the final touches on it, but that's going to be similar, in terms of the kind of information that it has, but revamped, to make it a little bit more engaging and give folks more information and resources and new training videos, and then, again, with testimonials and that sort of thing, and so look for that going live soon.

The other thing that BeBe has been doing is promoting, as I said, MyFishCount on social media, and so we have all these Facebook and Instagram hashtags, and then influencers, and so trying to find folks that are going to be spokespeople in their communities to promote our app, and so we have found a few folks, and I will show you their little video here in a minute, and these are our partners, and so the Angler Action Foundation, the South Carolina Wildlife and Fisheries Association, West Marine, Boaters Exchange, NOAA Fisheries, of course.

As I said, we plan to -- When we do finally hand this over to Angler Action Foundation, we want to make sure that it's a pretty polished product that will continue to grow and that we'll have a pretty solid user base. Here is some of our influencers, our local council member and Art Sapp from Florida. He's a council member, too. Both of them are celebrities.

In a nutshell, that's where we are, and we're excited about it. BeBe has been very great at promoting MyFishCount, and so, if you have ideas, if you want to maybe have BeBe come to give a training at your fish club or whatever, please let us know. She doesn't sleep, like ever, and she travels, and she is all over the place all the time, and so any questions?

MR. BONURA: Just a question and/or a thought here. Is there any way to like tag your fish on Instagram or Facebook after it's been reported?

DR. COLLIER: When we originally set up the app, it was set up to do that, but we just have not actually initiated that part of it, and so people can enter their Instagram IDs or Facebook IDs, and I don't do any of that stuff, but our app developer knows how to do it, and he does have it set up to do that, but it just has not been launched.

MR. BONURA: That sounds good. How about, also, what if you posted your picture, and then it automatically counted it off your picture?

DR. COLLIER: It can't do that, because you've got to supply some of the background information on your trip, where you left from and different things like that, where people generally don't put that in their posts.

MR. BONURA: Thank you.

MS. BROUWER: One of the things -- A couple of the things we've done with the app, the new app that's going to be available soon, and I can't promise on the 15th, because the Apple process -- They have to approve the app before you can release it and all that, and so it's going to be sometime this month.

One of the things that it has that's new is a weather button, and so you can -- It gets information from buoys that are near your location, so you can see the forecast, the temperature, the tides, the wind, and all manners of weather information. There was something else that I was going to tell you.

DR. COLLIER: Well, with that weather, what it's going to do is it's going to be associated with your catch, and so you'll be able to go back and look at your past trips and see what weather conditions were, what tide stage was it was, if you're reporting in real time, in order to better enhance your fishing.

MS. BROUWER: That's what I was going to say, and so one of the ways we're promoting the app as well is as a log. It's like your personal fishing log, and so you can go back, and the app, or the website, has a picture gallery, and you can look at all the pictures you have submitted, and you can look at all your past trips, and then, like Chip said, you can use it more as a personal log as well, in addition to all the benefits of reporting your information to be eventually used in management.

DR. COLLIER: One thing I want to point out is the benefit of something like MyFishCount -- Yesterday, you guys were talking about the Florida Keys National Marine Sanctuary, and there was some location information that can be provided for the commercial fishery, based on the VMS, and this gives people the opportunity to really denote their important recreational fishing sites. If the site is important to you, we need to know. Is this site used heavily?

Right now, we don't know what sites are really important to the recreational fishermen, based on some of the data we have. The Florida Keys National Marine Sanctuary, it would have been great to have recreational fishing effort and location to supply to them, to let them know that this is an extremely important site for this species or this area, and so that's the way this location information can be beneficial to you. Energy development is coming to the east coast, and that's going to be an important piece as well. Was this site really important for fishing? We don't know, but, if you begin to report it in MyFishCount or something like that, it's going to be beneficial to the fishermen, in order to protect some of your important fishing sites.

MR. MOSS: Chip, I think it's probably best to also make sure that everybody knows that you don't have to put your exact location, because I know a lot of people are worried about that. It can be a general location, and it can be the dock that you left from and so on and so forth, but, when you talk about location information, like you were saying, down in the Keys, it can be a generalized area.

DR. COLLIER: Yes, and, when we report, it's not going to be -- I think we have it on the site that it's not going to be anything less than two square miles, and so they're not going to get your exact location, no matter what.

MR. HULL: I would say adding that weather into it is really big. I mean, weather is key for us, before we go, and then logging it and the results that we had during those weather conditions, and that's big, and I would also say that everybody at this table is an influencer in your community, and we all need to be promoting this to everybody we can.

MS. JEFFCOAT: Do you all have any paper material that I could take back with me? We host an inshore fishing clinic, usually in February, and we host about twenty to thirty fishermen, and a lot of these guys do fish nearshore, and so it would be beneficial to give them some background on it and information to go forward with when they go on their offshore trips.

MR. BEARDSLEY: Also, we could use -- Actually coming up in January, we do a rookie day for the community, and a lot of snowbirds come down, and we probably have 200 to 300 people come to a clinic on everything from cast netting to kayaking to offshore and inshore, and we bring in local captains and guides and teach them everything from knot tying to bait that we use for different techniques to you name it, and we will bring in local tackle shops too and the new products, and so that would be good.

MR. HULL: Anybody else? All right. Thank you very much. We are going to get set up here for the next item, which is going to be SEDAR, the Southeastern Data Assessment and Review, and Kathleen Howington is going to be making a presentation, and so stand by.

MS. HOWINGTON: Good morning, everyone. This is not going to be half as much fun, and I don't have any cool videos of any council and staff, but I just wanted to come up and do four things. I will review two assessments and their new schedules, to just kind of give you an update on where they are after the SSC workshop addressing the MRIP numbers, and then we're going to go over two new-ish schedules that I am then going to request participants for.

The first two schedules we're going to go over are the ones that have already started back up, and I would like to say that this is just reviewing. They have already started up, but I just wanted to keep you guys in the loop. SEDAR 59 is South Atlantic greater amberjack, and this was a standard assessment, and the TORs and the appointments were finalized in December of 2017, but, because of the government shutdown and then the subsequent, like I said, SSC workshop for MRIP numbers, it has been postponed.

This assessment has now started back up, and we are on track to be able to finalize the -- Submit the completed assessment report to the council in March, and so hopefully that will be getting to the SSC in April. Fingers crossed. We already have -- I actually have an update here, and we already have the first assessment webinar scheduled for November 1, and so, if you are interested in being a part of the interested parties -- Give me one moment.

We are here, and there is the workshop, and then final data has been received, and we are getting working papers turned in, and then we're going to start up the assessment webinar, and so, if you would like to be added to the interested parties, please just let me know, and I will add you in, and then you'll be able to know when each webinar is getting scheduled and that kind of thing.

The other assessment that has started back up is SEDAR 60, and this is South Atlantic red porgy, and this is also a standard assessment. It's the same deal. The appointments were finalized actually in March of 2018, and then they actually did have a data scoping webinar and a few webinars, but then they had to pause as well, and so, as you see here, we have the SSC workshop, and then working papers are going to be due November 1, and then we'll have a data webinar actually on November 15, and we'll have an in-person workshop in Beaufort, North Carolina on December 10th through 12th, and so we're hoping to finalize this one in March of 2020 as well and turn it

around to the SSC in April. Once again, if you want to be part of the interested parties email, just let me know, and I will add you in, and then you'll know what's going on.

Those are the two that have already started back up, and the other things that I wanted to go over were these two. SEDAR 66, South Atlantic tilefish. If you're having déjà vu, that's because, at the last Snapper Grouper AP, I came in and double-checked that the participants were available for the updated schedule. I am doing it again, because the schedule got updated again, and so this hopefully is going to get started in April of 2020, and it's going to involve one in-person workshop in Beaufort in November of 2020 and then some assessment webinars in December, January, and, going into 2021, February, with the final assessment report in April. Right now, the participants that I have are -- For the Snapper Grouper AP, we have Vincent, and are you still available?

MR. BONURA: Yes, I think so.

MS. HOWINGTON: All right. Fantastic. Jim Freeman.

MR. HULL: Not here, but I will check with him and tell him to contact you.

MS. HOWINGTON: Thank you. I am going to put down that you will follow up with him. Rusty Hudson.

MR. HUDSON: Yes.

MS. HOWINGTON: Since you emailed me yesterday to double-check, I'm assuming that you're still available. Then Andy Piland. Not here either. All right. I will follow-up with those two people. Okay. Then the other schedule, and tell me if I'm going too quickly, because I always go too quickly, is for SEDAR 71, South Atlantic gag grouper. Now, this one, the schedule has not been finalized, and the TORs still need to be approved, and so we're in more of the beginning stages for this one, and so this is more just an ask for participants, and then we'll submit the potential participants to the council later on.

The schedule is hopefully starting in May of 2020, and then we'll be doing just webinars, and so this one doesn't have an in-person workshop, and it's just webinars, but that's going to be from October of 2020 and extending into February of 2021, and so do we have any volunteers to participate?

MR. COX: (Mr. Cox's comment is not audible on the recording.)

MR. MCKINLEY: Could you give me like a quick summary of what would be involved in that? I see it up there, but maybe --

MS. HOWINGTON: So what would be involved is, if you submit your name today, I am going to then go to the council in December and ask them to approve the potential appointees. After that, then you'll be getting an email with terms of reference and the schedule and basically kind of what's going on, and then you'll be getting a bunch of emails from me asking you to participate in webinars or in data scoping, and each webinar kind of has a little bit of a different goal at the beginning of it, and so, for example, the data review and assessment, that would be going over the data and seeing what's available and figuring out what's out there that we need to incorporate into

the last assessment, and then, going into the assessment, it would be looking at more of the modeling structure of is there something new that we need to do in the model.

As you can see, it's Assessment Webinar 3 and 4 if needed, and so, if our main analyst feels like she feels comfortable with the way that the assessment is going, then we're not going to need those assessments, but it's basically taking your expertise of contributing saying this is what I'm seeing out on the water, this is what I think is kind of going on, and then you're going to be on the webinar with scientists and analysts and modelers, and they're going to be also looking at it from a different perspective. Does that make sense?

MS. MARHEFKA: I am volunteering my husband, Mark Marhefka.

MR. MCKINLEY: I am willing to do it.

MS. HOWINGTON: I think three is good, and so thank you very much. Like I said, this is not a finalized appointment list, and I will be getting back to you and double-checking that the schedule is still good and double-checking that you're still available, but just be keeping an eye out for an email from me, and, as a warning to all of the volunteers, you just volunteered to be really annoyed via email by me, and so prepare for that one.

MR. HULL: Does anyone have any questions?

MS. JEFFCOAT: Kathleen, do you know of any stock assessments coming up for sea bass, by chance?

MR. COX: Is 71 going to be a standard?

MS. HOWINGTON: Before we go back to Deidra, we are moving away from the standard and benchmark and update assessments, and we're moving into the operational and research assessments, and that's a really long description about what the two differences are, but, ultimately, an operational can vary from what you would consider an update all the way to a standard, and it depends on what the terms of reference determine and what data we're going to be bringing in, and so that's also the reason why we have Assessment 3 and 4 as if needed, and so we have a little bit more flexibility with what we can do, and so this is going to be considered an operational. Does that answer your question?

MR. CARMICHAEL: Sea bass is a recent development, and the Steering Committee met, and one of the issues that came up was doing red snapper as an operational rather than research track, and I think a lot of you all know that Jimmy made comments to that effect at the council meeting, and it was discussed at the Steering Committee, and the Center believes that the changes that the council and the fishermen are interested in can be handled through an operational, and so we're going to be pushing that path through the SSC and get their comments and take it to the council in December, hopefully for their approval of that plan.

One of the things that does is it opens up some slots for the South Atlantic in 2022, and so the species that we have highlighted to consider for 2022 will be black sea bass and vermilion snapper, and so, if the change to the operational on red snapper is approved, and the Science Center then

has the resources to do some more work for us in 2022, because they won't be continuing on that research track, black sea bass is at the top of our list for that next slot.

MS. JEFFCOAT: Thank you.

MS. HOWINGTON: Yes. Thank you, John.

MR. HULL: Any other questions? As you all know, it all starts with the science and then the management, and so this is important stuff. Thank you, Kathleen.

MS. HOWINGTON: Thank you, guys.

MR. HULL: I think that it would be important sometime maybe, Mr. Carmichael, if we could get an education for the whole AP on the assessments that we're going to be transitioning to, as you briefly described, and what they -- The whole thing. It would be good for us, sometime maybe at the next AP or something.

MR. CARMICHAEL: That would be great.

MR. HULL: Thank you. That brings us into Other Business. I know that one of the items that we need to talk about is -- I will just read this to you, and it's a statement, and it should drive some discussion, I hope, and this is from the agency. I would like to request a brief discussion on information sources. Where are fishermen, recreational and commercial, getting their information on regulatory changes, management issues, et cetera? Do recreational fishermen depend on magazines, such as *Florida Sportsman* and *Sportfishing Magazine*, and, if so, is it mostly online? Do commercial fishermen rely mostly on Fishery Bulletins via email from the National Marine Fisheries Service or from the council, or do they rely on information from a fish house? What about the owner/operators that are also dealers? Do they use social media? If so, what sources? Can we start some discussion on that?

MR. MANIGAULT: Most of the fishermen around Charleston that I run into at fishing tournaments, they rely upon conversations with others, backed up with information from a lot of the fishing websites and clubs that they're a member to, or they'll come in a store, like West Marine, or tackle shops, like Haddrell's and places like that, and spark those conversations.

At one point in time, they would have coffee in the mornings, at certain tackle shops, and just have that discussion, or when they have certain like seminars, and we just recently had one with Semrad, and those topics in regard to regulations come up when we talking about finding specific fish or identifying certain fish on radar or at depths and things of that nature, and so pretty much for the most part. Other than that, some of them are -- I recommend them to get the South Atlantic app to monitor stuff like that, because I let them know the importance behind it, especially when it comes down to the red snapper issues, because that's more popular than I guess the next presidential race, but that's all I've got.

MR. HULL: Thank you, Gary, and so that's, in general, personal discussion, as far as general regulations, and maybe highlighted items in there, as far as like, if you're on a fishing trip, people are going right to the app to find out the trip limit and seasonality of their potential catch.

MR. MANIGAULT: I guess, each and every day, having that encounter with customers at West Marine, and they want to know, and that's why I rely on the Department of Natural Resources for the measurement tools and the books, as far as the regulations, and advising them about MyFishCount and Fish Rules, or whatever the case may be, and they are pretty astonished, and they're happy to have the actual information in itself, and so I don't know whether or not the council could get us some information to the actual store, but I will be glad to take it and put it in the store, so they can know what to actually go to to find it, some form of a simple flyer or whatever it's going to take.

MR. HULL: Thank you.

MR. MOSS: The easy answer is yes, all of the above. There is absolute age disparity though, and I can tell you that I kind of fall in the middle, where I get information, obviously, from here, because I'm in the midst of it, but through magazines, like *Florida Sportsmen*, but the big one for anybody younger than me is online, via social media is the biggest thing. I actually went to a big sales thing not too long ago, and one of the tenants was, if you're not hitting Instagram and Snapchat and Twitter every day, you are missing the boat, especially for anybody let's say thirty-five and younger.

It almost has to be like a daily/weekly thing, to get information out there on all the social media outlets, especially for the younger generation, and some of the people, like I said, my age and older, it's still -- Magazines and bait shops and things like that are great, but you absolutely have to hammer it on social media regularly.

MR. HULL: Thank you.

MS. PASKIEWICZ: I absolutely agree with David on that point, and I also want to add that those who want to be in the know are in the know, and so I still think that we have that line between people that care and people that would rather just throw their arms up in the air and say I had no idea, and so, for me, I rely on emails, text messages that I get, and I also frequent websites, and I monitor our catch and landings on a regular basis, and I blast all of my fishermen -- I am a wholesaler dealer, and so I blast all of my fishermen with text messages, to make sure that they are informed with the latest news that is pertinent to them personally, and so nobody is caught off-guard, and I think that that is kind of working in my small group of fishermen, that we're on the same page all the time, because there is somebody that cares to know.

MS. BROUWER: Just quickly, to follow-up, do you do the same -- You said your fishermen receive these email blasts, but what about your customers?

MR. PASKIEWICZ: I also inform my customers as well, as far as any upcoming closures and what things are going to look like in the near future, because a lot of my customers rely on a steady supply of fish. I mean, fortunately, for me, it's one or two species, and so it's very simple, and a lot of my customers are already -- They want to know anyway, and so they're informed.

MR. LORENZ: I depend, and have depended, on basically the public relations and the announcements that come out from the South Atlantic Fishery Management Council, and they are timely, and they're very good. Occasionally, I am a little surprised, because I find something out on NOAA Weather out of Wilmington, and so they are announcing things like the commercial

closures, and so I get to hear that. Actually, they did announce the red grouper closure for recreational.

Also, in North Carolina, the Department of Marine Fisheries, any angler can get on their list for the public statements and the proclamations that come out of Steve Murphy's office, and they follow the South Atlantic's, literally word for word, and so it's not unusual for me to get the South Atlantic's and, a half-day later, in comes the North Carolina Division of Marine Fisheries, and so, with respect to that, I think that one thing we can do is get more and more anglers, and I know that I want to do it, because I try to do it with every friend I can, is just give them sites and just get on and get your name on the email list, and then you're going to get the information that you really need to go out fishing.

Another source, just to bank off a little of James and David Moss, I bump up even further in age, and we tend to not do a lot of social media and things like that, and so I rely on publications, and I guess, due to some of the things I do as kind of an activist in fisheries, I don't pay for all these, and some people start sending them to me for free, and so here's what hits my mailbox. I get *Florida Sportsmen, Sportfishing, Saltwater Sportsmen, Tide,* and that's CCA's, and I personally subscribe to *National Fishermen*, and so it's very interesting to find out how the commercial feels nationwide, and I get *Big Game Journal*. They just started sending that to me also for free.

What these would be good for, if you're in for any public outreach, is they will always come with a slant oriented to who their readership is, and so they will give regulations with opinion, and they are very good for things coming up or that you implement, and so this is a good place to get an article in for say MyFishCount and all, which can lead you to the regulations, or also to sell-in anything in the future, particularly with the recreational anglers, that you may want. If you get any of these particular influential people, like George Poveromo with *Saltwater Sportsmen*, and get them to endorse something, as I believe they had recently with MyFishCount, and then you start to go somewhere with spreading it out.

I think what's very important, if you ever write articles for these people, and these people look for articles, believe it or not, but they look for content, and Gary Hurley with *Fishermen's Post* does look for content, and they can get your information out there, along with, strongly, the links to where you can get the real -- I will call it government information, but the information from the South Atlantic and the information from your Department of Marine Fisheries or whatever any state calls it.

MR. HULL: I would just like to add that, from our commercial fish house, we use the NOAA Fisheries bulletins and the council website and all that notify us of that. We use the council website to get into specifics of the species limits and things and regulations, but, also, we use -- We promote heavily noaafishwatch.com to our consumers, to our retail customers, and I don't know if anybody in here has ever been to that site, but it's really good.

I mean, it's an overall view for the consumer that is kind of like you've heard of the aquarium sites that tell you which fish is good to eat and which one isn't. Well, this is the government's information on, okay, is this sustainably managed and what's its abundance levels and how it's fished and what is the texture of the fish and how to cook it.

I mean, it's really a great site. If you get a chance, go to noaafishwatch.com, and it's really good for -- It's just people aren't really jumping on it that quick, but we tell all of our customers that come to the retail counter that want to know about the sustainability of this fish and how it's managed and where it's caught. I mean, go to that site and click on your fish, and it's great information on that one. Anybody else on this first question and discussion?

MS. MARHEFKA: I would just add that, like for in-season closures, seasonal ACL closures and things like that, we're still getting it over the radio, because Mark will often be off and figure out how many days before he's going to come in, if you're close to the quota hitting. Other than that, with Jimmy, it's very low tech, and it's the NOAA Fisheries bulletins and the radio, the VHF.

MR. HULL: Okay. We're still on Other Business, and I know I -- Go ahead, Cameron.

MS. RHODES: I am going to poll you guys, real quick. How many of you have Facebook? A pretty solid number. Of that group, how many of you follow us on Facebook? Okay. If we sit around in this room and we talk about how people need to follow us on social media, I am going to turn to you guys to make sure that you're doing that, and I can see if you're not, just because you are our ambassadors, and so it's really helpful to have you guys following us on those social media accounts.

How many of you have Instagram? How many of you follow us on Instagram? That's a good number, but I will be checking in on you guys for that kind of stuff, just because, if we're going to sit around and talk about it at the table, I want to make sure that you guys are actively following us too, so that you can be the ones who are sharing and spreading the word, because, truthfully, and I've talked about this with you all before, nobody wants to hear from us, but they might want to hear from you, and so, if you spread the word on our behalf, it's far more effective than us sending it out, and so please do follow us on our social media accounts.

We are on Twitter as well, and Twitter is mostly for our science community, but we are -- We post on Twitter and Facebook every day, and, with Instagram, we're starting to beef up a little bit more, and so we're trying to be a bit more active on the younger platforms, if you will. I am not dabbling in Snapchat until I get the directive that I have to, but we're going to stick to Facebook, Twitter, and Instagram, and we also have a YouTube channel, and I won't tell you that it's splashy and fancy, but it gives you the information for each of the amendments that we have, and it provides videos directly from staff, when they go through the actions and alternatives in the amendment, and so please do follow us on those accounts, because, if you're not doing it, then I'm certain that the general public isn't really doing it either.

MR. HULL: Thank you for that. That's a pretty good discussion on that. Okay. Onward into Other Business. Who is ready?

MR. MOSS: **I will need some help with crafting this, but I would like to make a motion, again, that we figure out a way to get a grasp on the recreational fishery participation, whether it's via a stamp, via a permit, whatever we want to do, and you might want to wait until I figure it out, Myra, because I don't know how I'm going to word this, but I want to make a motion to address the, I guess, recreational user group, at the very least, like I said, whether it's a via a stamp or a permit or something else, and perhaps somebody that's a bit**

more of a wordsmith can help me out with that, but I'm sure that everybody here gets the gist, because I know we've put it out here every meeting.

MR. HULL: We have made this motion pretty much every single time, and so maybe we need to change it, because it -- I mean, I think, for me, it's just to get the universe of recreational anglers, to get an idea, rather than an extrapolation of the anglers that are actually, for instance, using our snapper grouper resources.

MR. MOSS: Jim had a good idea. **Instead of "address", change it to "prioritize", so that we can kind of** -- I know that the council is looking at a lot of things, and this was kind of pushed to the back-burner, because of that, and I get it, but we definitely want to prioritize this, as an AP.

MR. HULL: Let's give her a chance to -- **It's recommend to the council to prioritize private recreational reporting and identify the universe of recreational anglers.** Is there a second? We can't discuss it until we get a second. Second by Jack. Is there discussion?

MR. MCKINLEY: Can we just add "and divers"? Not just anglers, but and diving, recreational diving.

MR. MOSS: Well, I would think that spearfishing -- It's included in --

MR. MCKINLEY: Unless that's inclusive.

MR. MOSS: Yes, it would be inclusive in the universe. I mean, if we want to -- That would have to be a different amendment, if you wanted to do some kind of separation, as far as tracking.

MR. MCKINLEY: As long as it's inclusive, but I want to make sure that it includes that.

MR. MOSS: Right now, recreational anglers, whether it's spearfishing or not, they still need to get a license to do it, and so it would fall under that umbrella.

MR. MCKINLEY: Okay.

MS. MARHEFKA: I wonder if we shouldn't word it -- So, basically, what we're talking about is, if you go back to the overview that Myra gave us at the beginning, Snapper Grouper Amendment 46, which was the recreational permit and reporting, and, if you recall, the council decided, at this meeting, not to prioritize it for development in 2019 or 2020, and maybe our motion -- **I don't think that we need to get into the weeds about wordsmithing, and I think what we need to say is that our AP very strongly recommends that the council reconsider the prioritization of Amendment 46.**

MR. HULL: That goes back to you, Dave.

MR. MOSS: I am good with that, as long as Jack is okay with it.

MR. HULL: I agree that that makes good sense, and so we're going to change it to recommend that the council prioritize development of Amendment 46.

MS. MARHEFKA: Strongly, for what it's worth. I think it needs to be strongly worded, because we do talk about this at every meeting, and we've been begging for it, and what do we need to do?

MR. HULL: Are you good with that, Dave?

MR. MOSS: Yes.

MR. HULL: The second -- Jack, are you good with what you see? Okay. I will read it. **The motion is strongly recommend to the council to prioritize development of Amendment 46, private recreational permit/reporting.** I mean, they know exactly what we're saying, and it's there. The amendment is there. Let's have a vote. With no further discussion, we're going to vote. **All those in favor, raise your hand. It looks like it's unanimous.** Okay. Very good. Let's move along. Does someone else have some Other Business that they want to bring up?

MR. HUDSON: **Well, this would be about the third or fourth year in a row trying for this, one way or another, but Florida would like to be open for shallow-water grouper on April 1, rather than May 1, so that we have a little shot at the spring run and whatever. I don't know if Georgia needs to be part of that, and I just know that I have to speak for Florida at this point of trying to get that, and so I would like to entertain a motion to strongly recommend that Florida, at the minimum, has an April 1 opening on shallow-water grouper, because, otherwise, they have already, for the most part, either been in the deep or up north, and we have, when you get into the deep, that 240-plus, restrictions called the Oculina Expanded Banks, both south and north of Port Canaveral, and so, without getting into all that, that's the motion that we would like to entertain.** Thank you.

MR. HULL: Do I have a second on that?

MS. JEFFCOAT: **I would like to add Georgia to that.**

MR. HULL: Okay. Would you be willing to add Georgia to your motion?

MR. HUDSON: Yes, because I've heard that they also miss out on a little bit of the action too, because, as we say, our gag is just not available to us.

MR. HULL: I think that, if we keep going on this, I don't think they're going to regionally open it up for just two states. I mean, they would probably say, well, we've got to do it all the way up the line, but this is fine, and I understand the rationale, because we need this, but they will have to review the entire closure and all of it, and this would get that started.

MR. HUDSON: Well, yes, and that's the part that I am kind of wondering about, if the spawners have already done their thing, even up into the North Carolina area, by April 1.

MR. HULL: Let's dispense with this motion. Deidra, did you second that?

MS. JEFFCOAT: I second that.

MR. HULL: Okay. Let me read it, to make sure it says what we like. **Strongly recommend that the council consider April 1 opening of shallow-water grouper in Florida and Georgia.** You

want to leave it in Florida and Georgia, or do you want to just leave it possibly where -- I mean, I know this is discussion, and she's already seconded it, and so we're discussing it, and do you want to just leave it and not leave it Florida and Georgia, because it just seems to me like North Carolina -- If I was in North Carolina, and you open it April 1 in Florida and Georgia, I'm going go, wait a second, why are you guys going to get it before I do, and so --

MR. HUDSON: Well, in the discussion we can have around the table, perhaps we will be able to flesh out some of this stuff, as to what is going on in South Carolina and North Carolina as to their opportunities, come April 1 versus May 1, with the spawners.

MR. HULL: Right on. Let's continue discussion.

MR. MCKINLEY: I would just like to -- I would agree with that, with Rusty, if they would take North and South Carolina, since Amendment 30 is going to take our red grouper away in May, and it would give us January, because fish are not spawning in January in North Carolina, and we would love to be able to do the shallow-water grouper in January, and so that would be a great tradeoff, and I would be all for it.

MR. MUNDEN: A question for the maker of the motion. Do you want this to apply to the recreational fishery or the commercial or both?

MR. HUDSON: I think what's fair is fair, all sectors.

MR. HULL: Okay, and so I think the point that was made by Randy is kind of the point that I tried to make, that you may want to consider the whole region and not just Florida and Georgia, and it may probably get better consideration if that was done.

MR. HUDSON: I agree, Jimmy, because that January thing I have heard before, and, for us, we know they are spawning in January and into February in our region, and it's just sort of the animals start moving on to the north after that, and so it sounds to me like they have an opportunity to be able to buttress everything on both ends and maybe make everybody happy in the entire South Atlantic Council region.

MR. HULL: Okay, and so we've changed it. Let me read it again, and then we'll make sure it's good with the maker and the seconder, and we'll see if there's more discussion. Go ahead, Rusty.

MR. HUDSON: Before we vote, of course, we had already discussed some of this, to some degree, about the spawners and the opening and closing, and I guess I'm losing my train of thought about this, because it's going to get complicated, the ten-year review. I keep on forgetting, and now we're at eleven years, coming up, and so it would be nice to have some kind of insight as to what we have and have not accomplished.

We know we have some issues with the scamp, and, of course, that's another situation. Red grouper, we don't have a red grouper scenario, except in south Florida, in the Keys, and then, when they blow by us, it becomes, more or less, a North Carolina anchoring for a lot of those red grouper at that point, when they build up in population, and we still have the hurricane thing that seems to drive that, when it slams into the south Florida east Gulf and then brings them around, and Ben Hartig is a firm believer in that too, like I am.

MR. HULL: Okay. I'm going to read the motion. Strongly recommend that the council consider an April 1 opening of shallow-water grouper -- But we were going to take out Florida and Georgia, right? Myra, if we could that out, and it would be just shallow-water grouper.

MR. HUDSON: Because we're looking at both ends now, I guess we just need to consider modifying the shallow-water grouper spawning season closure, as appropriate, because we're looking at both January and April now.

MR. HULL: I will read it. Strongly recommend that the council consider modifying the shallow-water grouper spawning season closure, as appropriate, for both sectors in the South Atlantic. We have taken out the April 1, and is that what you want?

MR. HUDSON: Let's add, somehow, after the "as appropriate", the January and April months, by location, because that's what we're talking about now. North Carolina in January, and possibly South Carolina in January, and then, for us, Georgia and Florida, April, and so I don't know how you want to dovetail that.

MR. HULL: I think you're getting -- From my point of view, I liked it before, just taking out the Florida and Georgia, and it was simpler. I think we need to be simple here.

MR. MCKINLEY: The only issue with that is though the amendment is already going forward on 30, and so it would -- I mean, I know they're not going to open North Carolina in April for grouper and then close it in May and open it in June, which we don't want that either, and so it's a tough one there.

MR. MOSS: Kind of anecdotally, and I will speak to before, when you had it as an April opening, but, in the south, I don't know how much it's going to matter. You can, a lot of times, see them there on April 30, and then, once they started getting pelted with lead on their heads on May 1, as they do, especially down in the Keys, they're there for about two days, and then they're gone, and I think it's more to do with the fishing pressure, because, like I said, especially in the Keys, and you guys can probably speak to this even more than I can, but it's -- With that hard opening, it's gotten to be like a derby, where it's almost as bad as a mini-season now, and, the second it's opened, and I'm telling you that these grouper come out with bruises on their heads from all the lead hitting the bottom, and then they take off. I don't know how much that would make a difference, at least down south, because, if you had a hard opening on April 1, they're going to get hammered on April 1, as opposed to May 1.

MR. HULL: Well, that addresses the recreational side of it. As far as up our way, on the commercial side, they don't take off because of leads hitting their heads. We would be able to catch some fish.

MR. PASKIEWICZ: I would kind of like to see what Cameron has to say about the opportunity to catch a fish. It would give the private sector the opportunity to get on a for-hire boat for a month longer, with the hopes of catching a grouper in the shallow-water complex, and so, from a socioeconomic standpoint, I think it might make it a little bit more attractive, to charter boats and recreational fishermen, to have the possibility of bagging one of these fish, and so, I mean, I think that there could be some good to come from it, but we have to be clear. Are we asking for a three-

month closure instead of a four-month closure, or are we asking for a rolling spawning closure, or what is that we're trying to achieve here? It sounded like it was a three-month closure to start, instead of a four-month, but now we're kind of all over the place, and I need some clarification.

MS. BROUWER: I just wanted to remind you and give you a little bit more background, to just refresh your memories of the discussions we've had at this table regarding shallow-water grouper in recent years. The council started, along with the visioning amendments -- As you recall, a couple of years ago, there was initially an action in both of those, commercial and recreational, to modify the shallow-water grouper closure.

Florida conducted a bunch of workshops with mainly dealers, I believe it was, to get input, and we developed a whole bunch of different alternatives for different ways to organize things, and some species were left out, and there were some options just for black grouper and some options just for reds, and the AP actually passed a motion or two that said we want no changes to the shallow-water grouper closure.

We took that out to public hearings, and the public said no changes to the shallow-water grouper closure, and so just to make sure that everybody remembers that we've been down this road before, and, you know, process-wise, the council is not currently considering these changes right now, and so I just want to make sure you understand that you can make this recommendation, but there isn't currently an amendment in place, or one that's been started, that would address this, and so I'm just saying.

MR. LORENZ: I am tempered a little bit on just what I was going to say by what Myra said, because it is true that we were down this road, but just the thought that I had is, you know, what's coming up here is the consideration of more of a closer regional management approach to the opening and the closing of the snapper grouper season, and so I was going to suggest that maybe one thing for consideration would be Rusty's motion, the way it was originally put forward for Florida and Georgia, and that, if Randy would want to make a motion, because we do know about the potential, the consideration, or the desire, of North Carolina to be open in January, but two separate things to consider.

MR. HUDSON: For clarification, Myra, the red grouper on Amendment 30, that's the only animal that's being extended into the June 1, and I get that, because I have heard that a lot up on that end.

MR. SEBASTIAN: For Myra said, it's not even on the table anyway, and so it's sort a -- I don't want to say a moot point, and we can put it on the radar now, but, if we start sectioning everything up to a January 1 place and an April 1 place, that's not going to ever fly, I don't think, as long as I've been sitting here, and so I would say keep it simple and keep it straightforward, and at least make this -- The way it sits is good. For our business, it's good.

Easter usually falls in April, and so, once again, it gives the illusion that, hey, you can go out and catch grouper, which opens up, and now we can sell Gulf Stream trips recreationally. Commercially, vermilion, a lot of times, is starting to be caught up by the first of April, and then we're sort of scrambling for, hey, can our guys do anything to go commercially, and so it sort of opens up the potential for the guys to catch commercial grouper a month earlier, and so I'm great with the way it is, and it benefits us in South Carolina on the recreational and the commercial side.

MR. HULL: Thank you for that. That was good conversation there, and so I'm going to read it one more time and make sure that the maker and the seconder are good with this, and then we'll vote on it, I hope. **Strongly recommend that the council consider modifying the shallow-water grouper spawning season closure, as appropriate, for both sectors in the South Atlantic.** Rusty, are you good with that?

MR. HUDSON: Yes, sir.

MR. HULL: Deidra?

MS. JEFFCOAT: I'm good with that.

MR. HULL: All right. Let's have a vote. **All those in favor of this motion, raise your right hand; all those opposed; abstentions.** Very good. Let's move on. All right. Other Business. I'm looking around the table.

MR. MUNDEN: I will ask the AP members to kind of bear with me, and, with all due respect to Rusty, I am going to go back and give you some historical information. My career with the North Carolina Division of Marine Fisheries began in 1969, and, when I first joined the Division of Marine Fisheries, I was responsible for the oyster replenishment program, and that program involved purchasing shells, primarily oyster shells, and putting them out on public oyster beds to establish foundations for new shellfish beds.

I bought oyster shells from all up and down the east coast, where I could find them, but they were in short demand, because people were using them for decorating lawns and putting them around palm trees or whatever, and so, in the mid-1970s, a calico scallop fishery developed off of Cape Lookout, North Carolina, and I believe that was the first place that they were harvested in large quantities, and the trawler fleet from North Carolina developed these huge, in my mind, dredges, like ten-feet in length, or width, and also heavily chained otter trawls that were modified with very heavy webbing, and they went out, and they just basically scooped up everything on the bottom.

They carried those calico scallops in, and the fishermen -- The people who worked in the fish houses didn't like to try to shuck them, because they were very small, and a gentleman developed a machine whereby they exposed the calico scallops in the shell to steam, at low steam pressure, and that caused them to gape open, and they could rake the meats out, and I ended up buying truckload after truckload of calico scallops from the North Carolina shucking houses.

Well, it didn't take very long, a matter of maybe two years, if my memory serves me correctly, before the North Carolina beds were completely -- They became non-productive, and I wouldn't say wiped out, but non-productive, and then the fleet moved to Georgetown, South Carolina, and they moved to St. Augustine, to new beds, and the reason that I remember these locations is that I was paying for trucking those shells from these locations, and I think they may have found some down off of -- Rusty could probably help me with this, but somewhere around the mid-east coast of Florida.

The last place that I bought shells from was Apalachicola Bay, and so the Mid-Atlantic Council, and this is where I'm going with this. I mean, the South Atlantic Council decided, sometime in the mid-1970s or late 1970s that they needed to develop a calico scallop fishery management plan,

and so, because I was running the North Carolina oyster program, I served as the North Carolina representative on the Calico Scallop Plan Development Team. The staff person who was on that team was Gregg Waugh, and so my relationship with Gregg goes back many, many years.

Little data were available on the calico scallop fishery, and, after the plan development team had a couple of meetings, I think the council decided that, well, it was too late to develop an FMP, and the beds has already been devasted, and here we are, some forty years later, and the beds have never returned to the Cape Lookout area, and I don't know if there are any calico scallop beds in commercial concentrations anywhere on the east coast.

I do remember, when we would get the shells, oftentimes we would find juvenile black sea bass mixed in with the shells, after they had already been harvested and processed, and I also remember that we found rock sea bass, and I think a few bank sea bass, and these were fish that were three or four inches long, and so my feelings are that, when that habitat was eliminated by those commercial fishing activities, they destroyed critical habitat for snapper grouper species.

Moving forward, the last fifteen years that I was with the Division of Marine Fisheries, I was representing North Carolina on the Mid-Atlantic Fishery Management Council, and, as a result of input from Gregg Waugh, I served as the Mid-Atlantic Council voting representative, first on the Dolphin Wahoo Committee and then on the King and Spanish Mackerel Committee, and then, when blueline tilefish started showing up above Cape Hatteras, I was on the Snapper Grouper Committee, and so, thanks to input from Gregg Waugh, I have had involvement in South Atlantic fisheries for the past forty years or so.

What I would like to do, and I wish that Gregg were here, is I would like to take this opportunity to publicly thank Gregg Waugh, Executive Director of the South Atlantic Fishery Management Council, for his support and guidance to the advisory panel, to the South Atlantic Council, to NMFS, the recreational and commercial fishing sectors, as well as conservation and environmental representatives, throughout his illustrious career with the South Atlantic Fishery Management Council. I would ask the Chairman and the new Executive Director-To-Be, John Carmichael, to pass my thanks and the thanks of the advisory panel to Gregg Waugh.

MR. HULL: Thank you, Red. That's great. I do agree totally, and I think everyone here does, and so we want Gregg to hear that, and he will, and so thank you very much for that and for the history on the calico industry. I appreciate that very much. Thank you, Gregg.

MR. HUDSON: Thank you, Red, because you came from the role of institutional knowledge, right back into the 1960s, and Gregg has been here, and that institutional knowledge is going to be going elsewhere too, but it is time for the new guard, in a lot of ways, and there's been the overlap, and it's really been good, from what I've seen the last couple of decades.

MR. HULL: Right on. Thank you. Okay. New Business. Go ahead.

MR. BONURA: Just a question here. What's the status on the vision blueprint project?

MS. BROUWER: The amendments that we put together, the commercial and the recreational amendments, they are under review, and I've been hearing that there's been some movement up

in Washington, and so we may be getting a proposed rule on the commercial amendment probably any day now. As far as -- Those are in the process, and they are going through the review process.

As far as a larger visioning project, the council talked about it in September, and they felt that, while we have accomplished a lot of things that we set out to do in the vision blueprint, there is still a lot more to be done, and so they didn't want to do -- You know, revise it and come up with a bunch of new things, and so the direction was that they are going to continue to address the activities, the strategies and actions that are within it, for the next at least year, and so I don't know beyond that.

We had talked about does the council want to do another round of port meetings and that sort of thing, because that was a big impetus behind that project and where we got a lot of really good information, and I think a lot of folks felt engaged and felt good that their voices were being heard. Unfortunately, there has not been any direction, as far as doing another round of port meetings, for the snapper grouper fishery. They've been talking about it, kind of sort of, for mackerel, and I don't know where that is going to end up, but that's where we are right now.

MR. SEBASTIAN: This is just a statement of some things that are going on in the charter/headboat industry, since we're South Atlantic fisheries, and we're being faced with pretty much absolutely devastating rules for the right whales, for the speed closure to ten knots from our coastline out twenty nautical miles.

We just received a fine, about three weeks ago, for like $60,000 that they have accrued, and so, for the snapper grouper fishery, NOAA is getting ready to totally wipe out the headboats, and we'll be absolutely alleviated and annihilated if we can't get some type of waiver or something for a small charter/headboat to pass in those areas, because, the way it sits now, is, between November and April, a headboat over sixty-five feet going to a Gulf Stream trip should travel no more than ten knots for the first twenty miles of their voyage, which, on a normal eleven-hour trip, would mean that we would be going thirteen-and-a-half hours, which would then fall under the Coast Guard regulations that we need to provide a backup captain and crew, because we're on a voyage of over twelve hours.

It's going to be an absolute -- It's going to -- Headboats will be gone. Wherever that rule is in effect, the headboats will be gone, because we can't operate in those waters, and so I just wanted to make sure that the council is aware of that, that, for our fishery, the means by which a lot of individuals with not a lot of resources get to go fishing, the cheaper headboats, is going to be severely impacted if these rules are kept in effect and we don't have waivers or something to allow us to plow those waters at a normal fifteen-knot speed, because it's just not -- It won't be a viable source anymore, or we're going to have to redo our whole fleets to get vessels under sixty-five feet, which means we're going to have re-tool and redo the whole way we do business and then pay lawyers and fight NOAA for the ten-knot rule along the way, which is going to cost a lot of capital.

MR. HULL: She has typed up your concern for the record, concern over negative effects of restrictions on vessel speed to protect right whales on charter/for-hire industry. That brings it to their attention, because that's something I hadn't thought -- I mean, I've seen that speed limit, but I just never thought that, okay, a headboat that's over sixty-five feet is going to have to fall under that, and so that's -- I see.

MR. HUDSON: Well, I kind of had a question for Red. Red, are you still involved on the whale team?

MR. MUNDEN: Yes, I am.

MR. HUDSON: Does this apply to the private boats and the Coast Guard and everybody?

MR. MUNDEN: I missed the last Large Whale Take Reduction Team meeting, because it conflicted with the South Atlantic Snapper Grouper AP, but my recollection is that it applies to vessels above a certain length, and, while I have the mic, a major problem with the migration of Atlantic large whales is the ship strikes, and we have pointed out, as team members, frequently, that they need to address the strikes by the large commercial vessels, and I'm talking about the freighters and tankers and all that, and then they come back and say, well, that just doesn't fall under our jurisdiction, and so what is in place, as I understand it, would apply to vessels above sixty-five feet.

MR. HUDSON: If I remember right, they had divided those actions for those ships and everything away from everything with the fishing industry, and that's why we were on the whale team together. Okay.

MR. COX: We have dealt with Protected Resources on some other issues regarding the right whale, but I would recommend that you deal with -- You're going to have to go through Congress, basically, to get anything done with Protected Resources on whales, but I don't think that -- It certainly isn't fair to single out a headboat when you've got outboards running the speeds that they run through there, or any other boat, and so I just -- It doesn't make sense that they would just single out a headboat.

MR. SEBASTIAN: When we first started seeing the notices posted, the Coast Guard said that they weren't going to enforce that, and so you guys don't have to worry about it, but then, when we went to the every vessel over X number of feet has to have AIS, then somebody in an office somewhere gets a file and says, oops, between X, Y, and Z dates, your vessel was traveling X number of knots, and they just compiled a list, and then they tacked the fine onto the list and sent it to us. Unlike a speeding ticket, where you would get a, hey, I was speeding, and I got a ticket, all of a sudden, our speeding ticket is three years long, with no real warning on top of it, and so it's a -- Like I said, it's a $50,000 fine or something like that.

MR. HULL: Wow.

MR. HUDSON: It seems to me that something simple and logical would have been to have a mate standing at the bow of the boat and have eyes on the water, and that's so insane, because most of these boats are going to be doing fifteen or twenty knots.

MR. FREEMAN: Just for our information, how many of you guys are hitting whales? Have you ever hit a whale?

MR. HUDSON: I never did with my shrimp boat, but they would be all swimming around me eating the little plankton and everything right there south of Ponce Inlet, year after year.

MR. FREEMAN: You would know if you hit one, right?

MR. HUDSON: I would imagine that I would probably be sinking in the water or something.

MR. LORENZ: I will address Cameron and a bit on what Jack said. I think, Cameron, you've got to try to articulate your argument and that kind of impact and the strain and stress it puts on, for what little gain there may ever be, and that has to get known nationally, and I think, as Jack said, put it in Congress or in front of something, because this right whale thing isn't getting any easier for the next year forward.

I mean, they stated that they can lose one female, and so you have an issue that -- I mean, right now, if you just read, your brethren -- Commercial guys, the Maine lobster industry is getting absolutely devastated. They are getting hit on one side with the tariffs and the Chinese not buying their lobster, and then, on the second side, the right whale entanglements, and they lost a bunch of whales due to entanglements, and I believe I'm correct, Red, but not one in the United States. They were in Canada, who isn't doing enough, and so there's something there to articulate and get out there in front of the American people. I mean, you're suffering needlessly, where there is more bang for your buck in other areas.

MR. HULL: Okay. Thank you for that, Cameron.

MR. MUNDEN: One quick thing. As a member of not one, but four marine mammal take reduction teams, and, basically, I serve for the North Carolina Division of Marine Fisheries on the take reduction teams, and this is on a volunteer basis, and so it's just something that I've done for a long time, and I enjoy working with the people on the teams, other scientists and environmentalists and fishermen, just like I enjoy serving on this advisory panel.

One thing that has always bothered me about the approach that the take reduction teams take, or NMFS Protected Resources, is one-size-fits-all, and I have argued with them that a Mid-Atlantic or South Atlantic black sea bass pot is not like a New England lobster pot, in terms of the amount of gear set and water depth and all that, but, again, that's the approach that they take.

Going back to the northern right whale, the PBR, and that's an acronym for potential biological removal, is less than one animal per year, and so, this year, I think there have been six mortalities up on the Bay of Fundy and Canadian waters, and so the team is very concerned about that, and there's a lot of emails going back and forth, and it's not a good situation, whether you're a recreational fisherman or somebody that has a for-hire vessel.

MR. HULL: Thanks again. All right. I am looking for hands, and I'm not seeing any. I just wanted to say one more thing, maybe as a recommendation, and I already asked about maybe giving the AP education at our next meeting on stock assessments, explaining to us and educating us on the different types of assessments and what they can do and what's done with them, and then the other thing is there was something that -- A pretty important fishery to all of us is triggerfish, gray triggerfish, and I remember seeing a presentation, in the last year or so, on triggerfish that showed the discard mortality on triggerfish, and it was a new study, that showed that they all die, because of their air bladder going -- I would like to know more about that.

That one, and I think that, in general, if you guys have some things that you want further education -- If you think the rest of the AP needs to get educated on and see and potentially expand on to the council, let's talk about that, to me, if you would like, or Myra, or here now, but I would like to see those couple of -- I know we only have so much time at these meetings, but just quickly. Expose it to us and let us know where we can get further information and things like that.

MS. MARHEFKA: I would just like to reiterate that, once a year, to the extent they can, to get Wally or someone from MARMAP here, and I think that should become a regular occurrence at our meetings. It's super educational, and that information drives a lot of the assessments.

MR. HULL: I agree. Yes, that was good, and I think we've already got that kind of figured out. Then Rusty had talked about the ten-year review of the shallow-water grouper closure. While she's doing that, I think we had a great meeting here. It was very productive, and you guys were -- You did what you needed to do, and you're giving it all and letting them know your experience and your knowledge.

MR. FREEMAN: Where did this data come from that the triggerfish had a 100 percent mortality, because, in my experience, they're one of the most vigorous individuals returning to his natural habitat.

MR. HULL: I know that they really swim down fast, but I don't know, and that's why I'm throwing it out there, and we're going to have to look a little further, but there was a presentation made pretty recently, and maybe John Carmichael knows of it or can remember it, and I know that Gregg and I were talking about it, and he remembered it.

It said that their head, the bone structure in their head, when they get barotrauma, their air bladder would go up in their head and get trapped and it would never go back down, and so they died, and it was a diver study of some divers, but that one interested me a lot, and I just kind of never heard from it again, because, if every triggerfish really dies, then why do we have any type of a -- I mean, you might as well keep them, right? Maybe that's why we haven't heard from it again, and I don't know. Here comes Chip.

DR. COLLIER: That study was presented by Brendan Runde, and he's a student at North Carolina State University, and, yes, he did indicate that there were some issues for triggerfish, where their stomach would get caught in their pharyngeal teeth, and it would not necessarily go back down after you recompressed the fish, and so mortality was pretty significant, as well as intestinal prolapse. That's an issue for that fish, where the intestine comes out the backside, and that doesn't feel real good for the fish, and it doesn't recover well from that.

There have been some other studies that looked at release mortality for gray triggerfish, and so it would be good to get a couple of different presentations on that, and maybe have this go to the SSC prior to it getting presented to you guys, to make sure that it's sound science and we're getting you the right numbers.

MR. HULL: Thank you. It's just that it's very interesting to me, and I'm assuming it would be very interesting to everybody at this table, too. Now I see hands.

DR. KELLISON: I am just looking at the paper that they published, Brendan and Jeff Buckel's group out of NC State, and their results were -- I don't know what depths they were working with, and I could figure that out quickly, but I guess they had three categories of fish, and they said best condition, surface-released fish, which are fish with no external trauma, had an estimated mean survival of 39 percent. For fish exhibiting visible trauma, estimated survival was 24 percent, and then, for floating fish, they had an estimated survival of zero percent.

MR. HULL: Okay. Thank you for that. That's what I recalled, that it was pretty bad.

MR. MANIGAULT: I want to throw something out there and see if we can get some information from the Army Corps of Engineers on current and future reef projects, and maybe they can come in and bring us up to speed on anything current and/or in the future.

MR. HULL: Artificial reefs?

MR. MANIGAULT: Yes, artificial reefs.

MR. HULL: Okay, because they permit the artificial reefs. Okay.

MR. HUDSON: FYI, I guess the Gulf may have had, or is finishing up, a gray triggerfish thing, and I was kind of wondering what their mortality was, and Chip said he would look into it, and that was the only thing that I wanted to put out there, because ours both failed.

MR. MCKINLEY: I mean, I would find that hard to believe. The ones floating, I would agree with, but we were out there a few weeks ago, in 140 foot, and the water was real clear, and I was looking down probably -- Actually, my back was hurting at the end of the day, because it was like an aquarium, but the triggerfish were following it all the way up, probably to within thirty feet of the surface, and they were becoming unhooked, a lot of them, and then other ones would grab the bait and stuff, and I just -- The ones where their intestines are coming out, I would agree with that, but that was such a small percentage, and we were in about 140 foot, but they were actually actively coming up, and you could see them, and some of them would swim off, and some of them would get on, and it was just pretty neat, and so I don't -- Maybe the ones floating or something like that, but, for most of them that we catch, they're not in that bad shape, I don't think, but that was a pretty interesting study, evidently.

MR. COX: That's why went forward with Amendment 29, to deal with issues like that, and so before they can have assessment and what would hurt us on triggerfish and we would have to include, and now we're using tools to help the fish do what they are supposed to do.

MR. HULL: Right on. All right. Go ahead, Vincent.

MR. BONURA: Back to the whole visioning project thing, could I recommend that, in the future, and I guess it's going to be held off until 2021, and is that correct? Is it possible to recommend to bring back a presentation of the 2014 port meetings and have a presentation made for the AP and the council, I guess based on that information that was obtained back then, in 2014, if you're not going to do an upcoming session of meetings in 2021, that is?

MS. BROUWER: Just for clarification, Vincent, are you suggesting that we sort of review with you all, and with the council, the input that we received that went into developing the blueprint?

MR. BONURA: Yes, that's correct.

MR. HULL: Okay. That's some good items. I think this is coming to an end, folks.

MS. BROUWER: Before I let you go, I am going to look, again, to the last week of April for your spring meeting, and so just be on the lookout for an email from me with the save-the-dates, but, normally, that's when we try to meet, is that last full week of April, sometime there.

MR. HUDSON: We're looking at the last week of April, you're saying, and isn't that when the MREP is occurring, also?

MS. BROUWER: It normally is. I believe, this year -- I don't know, and I talked to Kim, and she was looking at some time in February, but I will keep that in mind, and so I would make sure that it doesn't coincide with that.

MR. COX: A lot of people travel for Easter during that time, because the schools are out.

MS. BROUWER: Easter is earlier. It's the first week in April.

MR. COX: Good deal.

MR. HULL: Okay. That's it. Meeting adjourned.

(Whereupon, the meeting adjourned on October 11, 2019.)

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Certified By: _____ Date: _____

Transcribed By:
Amanda Thomas
November 4, 2019

SOUTH ATLANTIC FISHERY MANAGEMENT COUNCIL

2019 COUNCIL MEMBERS

✓Jessica McCawley, **Chair**
Florida Fish and Wildlife Conservation Commission
2590 Executive Center Circle E. Suite 201
Tallahassee, FL 32301
(850)487-0554 (ph); (850)487-4847 (f)
Jessica.mccawley@myfwc.com

Mel Bell, **Vice Chair**
SCDNR-Marine Resources Division
P.O. Box 12559
217 Ft. Johnson Road
Charleston, SC 29422
(843)953-9007 (ph); (843)953-9159 (fax)
bellm@dnr.sc.gov

Robert Beal
Executive Director
Atlantic States Marine Fisheries Commission
1050 N. Highland St. Suite 200 A-N
Arlington, VA 22201
(703)842-0740 (ph); (703)842-0741 (f)
rbeal@asmfc.org

Anna Beckwith
1907 Paulette Road
Morehead City, NC 28557
(252)671-3474 (ph)
AnnaBarriosBeckwith@gmail.com

Dr. Carolyn Belcher
GA DNR – Coastal Resources Division
One Conservation Way, Suite 300
Brunswick, GA 31520
(912)264-7218 (ph); (912)262-3143 (f)
belchersafmc@gmail.com

Chester Brewer
250 Australian Ave. South Suite 1400
West Palm Beach, FL 33408
(561)655-4777 (ph)
wcbsafmc@gmail.com

Dr. Kyle Christiansen
150 Cedar St.
Richmond Hill, GA 31324
(912)756-7560 (ph)
christiansensafmc@gmail.com

✓Chris Conklin
P.O. Box 972
Murrells Inlet, SC 29576
(843)543-3833
conklinsafmc@gmail.com

✓Dr. Roy Crabtree
Regional Administrator
NOAA Fisheries, Southeast Region
263 13th Avenue South
St. Petersburg, FL 33701
(727)824-5301 (ph); (727)824-5320 (f)
roy.crabtree@noaa.gov

✓Tim Griner
4446 Woodlark Lane
Charlotte, NC 28211
(980)722-0918 (ph)
timgrinersafmc@gmail.com

U.S. Fish and Wildlife Service
Representative
TBD

LCDR Jeremy Montes
U.S. Coast Guard
909 SE 1st Ave.
Miami, FL 33131
(305)415-6788(ph); (305)710-4569(c)
Jeremy.J.Montes@uscg.mil

Stephen Poland
NC Division of Marine Fisheries
PO Box 769
3441 Arendell Street
Morehead City, NC 28557
(252)808-8011 (direct); (252)726-7021 (main)
Steve.Poland@ncdenr.gov

Art Sapp
2270 NE 25th St.
Lighthouse Pointe, FL 33064
(954)444-0820 (ph)
artsappsafmc@gmail.com

2019 COUNCIL MEMBERS continued

Deirdre Warner-Kramer
Office of Marine Conservation OES/OMC
2201 C Street, N.W. Department of State, Room 5806
Washington, DC 20520
(202)647-3228 (ph)
Warner-KramerDM@state.gov

✓David Whitaker
720 Tennent Street
Charleston, SC 29412
(843)953-9392
david.whitakersafmc@gmail.com

Spud Woodward
860 Buck Swamp Road
Brunswick, GA 31523
(912)258-8970 (ph)
swoodwardsafmc@gmail.com

Dr. Roy Crabtree
Dr. Marcel Reichert

SOUTH ATLANTIC FISHERY MANAGEMENT COUNCIL

COUNCIL STAFF

Executive Director
✓Gregg T. Waugh
gregg.waugh@safmc.net

Deputy Director – Science & Statistics
✓John Carmichael
john.carmichael@safmc.net

Deputy Director - Management
✓Dr. Brian Cheuvront
brian.cheuvront@safmc.net

Fishery Scientist
✓Myra Brouwer
myra.brouwer@safmc.net

Citizen Science Program Manager
✓Julia Byrd
julia.byrd@safmc.net

Admin. Secretary/Travel Coordinator
Cindy Chaya
cindy.chaya@safmc.net

Fishery Scientist
✓Dr. Chip Collier
chip.collier@safmc.net

Purchasing & Grants
✓Cierra Graham
cierra.graham@safmc.net

Fishery Biologist
✓Dr. Mike Errigo
mike.errigo@safmc.net

Fishery Economist
✓John Hadley
john.hadley@safmc.net

Public Information Officer
Kim Iverson
kim.iverson@safmc.net

Administrative Officer
Kelly Klasnick
kelly.klasnick@safmc.net

Senior Fishery Biologist
Roger Pugliese
roger.pugliese@safmc.net

Outreach Program Coordinator
✓Cameron Rhodes
cameron.rhodes@safmc.net

Staff Accountant
Suzanna Thomas
suzanna.thomas@safmc.net

Fisheries Social Scientist
✓Christina Wiegand
christina.wiegand@safmc.net

Outreach Specialist
BeBe Harrison
bebe.harrison@safmc.net

Outreach Specialist
✓Allie Iberle
allie.iberle@safmc.net

SEDAR Coordinators

Dr. Julie Neer
julie.neer@safmc.net

Kathleen Howington
kathleen.howington@safmc.net

SOUTH ATLANTIC FISHERY MANAGEMENT COUNCIL

SNAPPER GROUPER ADVISORY PANEL (continued)

✓James Hull Jr., Chair
1258 John Anderson Drive
Ormond Beach, FL 32176
(386)547-1254 (ph); (386)615-9333 (f)
hullsseafood@aol.com
12/13*, 3/17*
Commercial/Dealer/Retail

✓Robert Lorenz, Vice Chair
1509 Meridian Terrace
Wilmington, NC 28411
(910)232-4755 (ph)
blpinfisher@gmail.com
12/14, 3/18*
Recreational

Jim Atack
111 SW 20th Street
Oak Island, NC 28465
(910)520-8279
Jimatack82@gmail.com
9/10*,12/13*,3/17*
Recreational

✓Vincent Bonura
800 SW 12th CT
Fort Lauderdale, FL 33315
(954)240-8615 (ph)
SailRaiser25C@aol.com
9/17*
Commercial

✓Richen "Dick" Brame
517 Braddock Street
Wilmington, NC 28409
(910)599-5245 (ph)
dbrame55@gmail.com
9/15, 10/18*
NGO

✓Randall Beardsley
5929 Broken Bow Lane
Port Orange, FL 32127 (
386)804-0352 (ph)
rscbeards@yahoo.com
10/18*
Recreational

✓Jack Cox Jr.
141 Bayview Blvd
Atlantic Beach, NC 28512
(252)728-9548
Dayboat1965@gmail.com
9/17*
Commercial

James Freeman
122 Springwood Dr.
Daytona Beach, FL 32119
(386)882-6151 (ph)
Cfreeman23@bellsouth.net
12/13*, 3/17*
Commercial

✓Robert Freeman
221 Smith Street
Atlantic Beach, NC 28512
(252)726-9814 (ph)
sunrise@coastalnet.com
3/17*
Charter

✓Richard Gomez
289 Leo Lane
Key West, FL 33040
(954)798-7764
captainconch12@yahoo.com
9/17*
Charter

Lawton Howard
924 Champney
St. Simons Island, GA 31316
(912)256-2110
Titantitle@windstream.net
3/19*
Recreational

✓Rusty Hudson
P.O. Box 9351
Daytona Beach, FL 32120
(386)239-0948 (ph); (386)253-2843 (f)
DSF2009@aol.com
9/15, 10/18*
Commercial

SNAPPER GROUPER ADVISORY PANEL (continued)

Deidra Jeffcoat
20 South Cromwell Road
Savannah, GA 31410
(912)308-5317 (ph); (912)897-3460 (f)
dcjeffcoat@comcast.net
3/16*,3/19*
Charter

Gary Manigault Sr.
1299 Sand Pine Rd
Ladson, SC 29456
(843)471-4637 (ph)
garymanigaultsr@yahoo.com
9/17*
Recreational/Charter

Randy McKinley
114 Friendly Lane
Hampstead, NC 28443
(910)612-5260
emckinley3@aol.com
10/18*
Commercial

Greg Mercurio
1211 20th Terrace
Key West, FL 33040
(305)923-4401 (ph)
greg@yankeecapts.com
3/17*
Charter/Headboat

Jim Moring
171 Church Street Suite 300
Charleston, SC 29401
(843)343-5757 (ph)
commonwealthjimm@prodigy.net 9/17*
Recreational/Restaurateur

David Moss
7312 Via Leonardo
Lake Worth, FL 33467
(954)214-7954 (ph)
david@smoss.com
12/13*, 3/17*
Recreational

Fentress "Red" Munden
P.O. Box 1165
Morehead City, NC 28557
(252)226-9015(h); (252)241-9541(m)
fmunden@gmail.com
9/12, 9/15, 10/18* Conservation

Kerry O'Malley-Marhefka
P.O. Box 2343
Mt. Pleasant, SC 29465
(843)452-7352 (ph)
abundantseafood@gmail.com
6/14, 9/17*
Commercial/Dealer

James Paskiewicz
7987 Shark Drive
Marathon, FL 33050
(505)304-6210 (ph)
islandskipperfishing@gmail.com
3/18*
Commercial

Andy Piland
P.O. Box 533
Hatteras, NC 27943
(252)216-9273
andypiland@gmail.com
9/15, 10/18*
Charter

Cameron Sebastian
228 Green Lake Drive
Myrtle Beach, SC 29572
(843)450-6813
cameron@coastalscuba.com
3/19*
Charter/Commercial

David Snyder
55 Cinema Lane
St. Simons Island, GA 31522
(912)399-3813 (ph); (912)638-9163 (f)
dave@halyardsrestaurant.com
12/13*,3/17*
Consumer Representative

Non-Voting

Dr. Todd Kellison
NOAA - Beaufort Lab
Chief, Fisheries Ecosystem Branch
101 Pivers Island Road
Beaufort, NC 28516
Todd.Kellison@noaa.gov
At-Large

SOUTH ATLANTIC FISHERY MANAGEMENT COUNCIL

2019 COUNCIL MEMBERS

✓Jessica McCawley, **Chair**
Florida Fish and Wildlife Conservation Commission
2590 Executive Center Circle E. Suite 201
Tallahassee, FL 32301
(850)487-0554 (ph); (850)487-4847 (f)
Jessica.mccawley@myfwc.com

Mel Bell, **Vice Chair**
SCDNR-Marine Resources Division
P.O. Box 12559
217 Ft. Johnson Road
Charleston, SC 29422
(843)953-9007 (ph); (843)953-9159 (fax)
bellm@dnr.sc.gov

Robert Beal
Executive Director
Atlantic States Marine Fisheries Commission
1050 N. Highland St. Suite 200 A-N
Arlington, VA 22201
(703)842-0740 (ph); (703)842-0741 (f)
rbeal@asmfc.org

Anna Beckwith
1907 Paulette Road
Morehead City, NC 28557
(252)671-3474 (ph)
AnnaBarriosBeckwith@gmail.com

Dr. Carolyn Belcher
GA DNR – Coastal Resources Division
One Conservation Way, Suite 300
Brunswick, GA 31520
(912)264-7218 (ph); (912)262-3143 (f)
belchersafmc@gmail.com

Chester Brewer
250 Australian Ave. South Suite 1400
West Palm Beach, FL 33408
(561)655-4777 (ph)
wcbsafmc@gmail.com

Dr. Kyle Christiansen
150 Cedar St.
Richmond Hill, GA 31324
(912)756-7560 (ph)
christiansensafmc@gmail.com

✓Chris Conklin
P.O. Box 972
Murrells Inlet, SC 29576
(843)543-3833
conklinsafmc@gmail.com

✓Dr. Roy Crabtree
Regional Administrator
NOAA Fisheries, Southeast Region
263 13th Avenue South
St. Petersburg, FL 33701
(727)824-5301 (ph); (727)824-5320 (f)
roy.crabtree@noaa.gov

✓Tim Griner
4446 Woodlark Lane
Charlotte, NC 28211
(980)722-0918 (ph)
timgrinersafmc@gmail.com

U.S. Fish and Wildlife Service
Representative
TBD

LCDR Jeremy Montes
U.S. Coast Guard
909 SE 1st Ave.
Miami, FL 33131
(305)415-6788(ph); (305)710-4569(c)
Jeremy.J.Montes@uscg.mil

Stephen Poland
NC Division of Marine Fisheries
PO Box 769
3441 Arendell Street
Morehead City, NC 28557
(252)808-8011 (direct); (252)726-7021 (main)
Steve.Poland@ncdenr.gov

Art Sapp
2270 NE 25th St.
Lighthouse Pointe, FL 33064
(954)444-0820 (ph)
artsappsafmc@gmail.com

2019 COUNCIL MEMBERS continued

Deirdre Warner-Kramer
Office of Marine Conservation OES/OMC
2201 C Street, N.W. Department of State, Room 5806
Washington, DC 20520
(202)647-3228 (ph)
Warner-KramerDM@state.gov

✓ David Whitaker
720 Tennent Street
Charleston, SC 29412
(843)953-9392
david.whitakersafmc@gmail.com

Spud Woodward
860 Buck Swamp Road
Brunswick, GA 31523
(912)258-8970 (ph)
swoodwardsafmc@gmail.com

SOUTH ATLANTIC FISHERY MANAGEMENT COUNCIL

COUNCIL STAFF

Executive Director
Gregg T. Waugh
gregg.waugh@safmc.net

Deputy Director – Science & Statistics
John Carmichael
john.carmichael@safmc.net

Deputy Director - Management
Dr. Brian Cheuvront
brian.cheuvront@safmc.net

Fishery Scientist
Myra Brouwer
myra.brouwer@safmc.net

Citizen Science Program Manager
Julia Byrd
julia.byrd@safmc.net

Admin. Secretary/Travel Coordinator
Cindy Chaya
cindy.chaya@safmc.net

Fishery Scientist
Dr. Chip Collier
chip.collier@safmc.net

Purchasing & Grants
Cierra Graham
cierra.graham@safmc.net

Fishery Biologist
Dr. Mike Errigo
mike.errigo@safmc.net

Fishery Economist
John Hadley
john.hadley@safmc.net

Public Information Officer
Kim Iverson
kim.iverson@safmc.net

Administrative Officer
Kelly Klasnick
kelly.klasnick@safmc.net

Senior Fishery Biologist
Roger Pugliese
roger.pugliese@safmc.net

Outreach Program Coordinator
Cameron Rhodes
cameron.rhodes@safmc.net

Staff Accountant
Suzanna Thomas
suzanna.thomas@safmc.net

Fisheries Social Scientist
Christina Wiegand
christina.wiegand@safmc.net

Outreach Specialist
BeBe Harrison
bebe.harrison@safmc.net

Outreach Specialist
Allie Iberle
allie.iberle@safmc.net

SEDAR Coordinators

Dr. Julie Neer
julie.neer@safmc.net

Kathleen Howington
kathleen.howington@safmc.net

SOUTH ATLANTIC FISHERY MANAGEMENT COUNCIL

SNAPPER GROUPER ADVISORY PANEL (continued)

✓James Hull Jr., Chair
1258 John Anderson Drive
Ormond Beach, FL 32176
(386)547-1254 (ph); (386)615-9333 (f)
hullsseafood@aol.com
12/13*, 3/17*
Commercial/Dealer/Retail

✓Robert Lorenz, Vice Chair
1509 Meridian Terrace
Wilmington, NC 28411
(910)232-4755 (ph)
blpinfisher@gmail.com
12/14, 3/18*
Recreational

Jim Atack
111 SW 20th Street
Oak Island, NC 28465
(910)520-8279
Jimatack82@gmail.com
9/10*,12/13*,3/17*
Recreational

✓Vincent Bonura
800 SW 12th CT
Fort Lauderdale, FL 33315
(954)240-8615 (ph)
SailRaiser25C@aol.com
9/17*
Commercial

✓Richen "Dick" Brame
517 Braddock Street
Wilmington, NC 28409
(910)599-5245 (ph)
dbrame55@gmail.com
9/15, 10/18*
NGO

✓Randall Beardsley
5929 Broken Bow Lane
Port Orange, FL 32127 (
386)804-0352 (ph)
rscbeards@yahoo.com
10/18*
Recreational

✓Jack Cox Jr.
141 Bayview Blvd
Atlantic Beach, NC 28512
(252)728-9548
Dayboat1965@gmail.com
9/17*
Commercial

James Freeman
122 Springwood Dr.
Daytona Beach, FL 32119
(386)882-6151 (ph)
Cfreeman23@bellsouth.net
12/13*, 3/17*
Commercial

✓Robert Freeman
221 Smith Street
Atlantic Beach, NC 28512
(252)726-9814 (ph)
sunrise@coastalnet.com
3/17*
Charter

✓Richard Gomez
289 Leo Lane
Key West, FL 33040
(954)798-7764
captainconch12@yahoo.com
9/17*
Charter

Lawton Howard
924 Champney
St. Simons Island, GA 31316
(912)256-2110
Titantitle@windstream.net
3/19*
Recreational

✓Rusty Hudson
P.O. Box 9351
Daytona Beach, FL 32120
(386)239-0948 (ph); (386)253-2843 (f)
DSF2009@aol.com
9/15, 10/18*
Commercial

SNAPPER GROUPER ADVISORY PANEL (continued)

✓ Deidra Jeffcoat
20 South Cromwell Road
Savannah, GA 31410
(912)308-5317 (ph); (912)897-3460 (f)
dcjeffcoat@comcast.net
3/16*,3/19*
Charter

✓Gary Manigault Sr.
1299 Sand Pine Rd
Ladson, SC 29456
(843)471-4637 (ph)
garymanigaultsr@yahoo.com
9/17*
Recreational/Charter

✓Randy McKinley
114 Friendly Lane
Hampstead, NC 28443
(910)612-5260
emckinley3@aol.com
10/18*
Commercial

Greg Mercurio
1211 20th Terrace
Key West, FL 33040
(305)923-4401 (ph)
greg@yankeecapts.com
3/17*
Charter/Headboat

✓Jim Moring
171 Church Street Suite 300
Charleston, SC 29401
(843)343-5757 (ph)
commonwealthjimm@prodigy.net 9/17*
Recreational/Restaurateur

✓David Moss
7312 Via Leonardo
Lake Worth, FL 33467
(954)214-7954 (ph)
david@smoss.com
12/13*, 3/17*
Recreational

✓ Fentress "Red" Munden
P.O. Box 1165
Morehead City, NC 28557
(252)226-9015(h); (252)241-9541(m)
fmunden@gmail.com
9/12, 9/15, 10/18* Conservation

✓Kerry O'Malley-Marhefka
P.O. Box 2343
Mt. Pleasant, SC 29465
(843)452-7352 (ph)
abundantseafood@gmail.com
6/14, 9/17*
Commercial/Dealer

✓ James Paskiewicz
7987 Shark Drive
Marathon, FL 33050
(505)304-6210 (ph)
islandskipperfishing@gmail.com
3/18*
Commercial

Andy Piland
P.O. Box 533
Hatteras, NC 27943
(252)216-9273
andypiland@gmail.com
9/15, 10/18*
Charter

✓ Cameron Sebastian
228 Green Lake Drive
Myrtle Beach, SC 29572
(843)450-6813
cameron@coastalscuba.com
3/19*
Charter/Commercial

David Snyder
55 Cinema Lane
St. Simons Island, GA 31522
(912)399-3813 (ph); (912)638-9163 (f)
dave@halyardsrestaurant.com
12/13*,3/17*
Consumer Representative

Non-Voting

✓ Dr. Todd Kellison
NOAA - Beaufort Lab
Chief, Fisheries Ecosystem Branch
101 Pivers Island Road
Beaufort, NC 28516
Todd.Kellison@noaa.gov
At-Large

SOUTH ATLANTIC FISHERY MANAGEMENT COUNCIL
2019 COUNCIL MEMBERS

✓Jessica McCawley, **Chair**
Florida Fish and Wildlife Conservation Commission
2590 Executive Center Circle E. Suite 201
Tallahassee, FL 32301
(850)487-0554 (ph); (850)487-4847 (f)
Jessica.mccawley@myfwc.com

Mel Bell, **Vice Chair**
SCDNR-Marine Resources Division
P.O. Box 12559
217 Ft. Johnson Road
Charleston, SC 29422
(843)953-9007 (ph); (843)953-9159 (fax)
bellm@dnr.sc.gov

Robert Beal
Executive Director
Atlantic States Marine Fisheries Commission
1050 N. Highland St. Suite 200 A-N
Arlington, VA 22201
(703)842-0740 (ph); (703)842-0741 (f)
rbeal@asmfc.org

Anna Beckwith
1907 Paulette Road
Morehead City, NC 28557
(252)671-3474 (ph)
AnnaBarriosBeckwith@gmail.com

Dr. Carolyn Belcher
GA DNR – Coastal Resources Division
One Conservation Way, Suite 300
Brunswick, GA 31520
(912)264-7218 (ph); (912)262-3143 (f)
belchersafmc@gmail.com

Chester Brewer
250 Australian Ave. South Suite 1400
West Palm Beach, FL 33408
(561)655-4777 (ph)
wcbsafmc@gmail.com

Dr. Kyle Christiansen
150 Cedar St.
Richmond Hill, GA 31324
(912)756-7560 (ph)
christiansensafmc@gmail.com

✓Chris Conklin
P.O. Box 972
Murrells Inlet, SC 29576
(843)543-3833
conklinsafmc@gmail.com

Dr. Roy Crabtree
Regional Administrator
NOAA Fisheries, Southeast Region
263 13th Avenue South
St. Petersburg, FL 33701
(727)824-5301 (ph); (727)824-5320 (f)
roy.crabtree@noaa.gov

✓Tim Griner
4446 Woodlark Lane
Charlotte, NC 28211
(980)722-0918 (ph)
timgrinersafmc@gmail.com

U.S. Fish and Wildlife Service
Representative
TBD

LCDR Jeremy Montes
U.S. Coast Guard
909 SE 1st Ave.
Miami, FL 33131
(305)415-6788(ph); (305)710-4569(c)
Jeremy.J.Montes@uscg.mil

Stephen Poland
NC Division of Marine Fisheries
PO Box 769
3441 Arendell Street
Morehead City, NC 28557
(252)808-8011 (direct); (252)726-7021 (main)
Steve.Poland@ncdenr.gov

Art Sapp
2270 NE 25th St.
Lighthouse Pointe, FL 33064
(954)444-0820 (ph)
artsappsafmc@gmail.com

2019 COUNCIL MEMBERS continued

Deirdre Warner-Kramer
Office of Marine Conservation OES/OMC
2201 C Street, N.W. Department of State, Room 5806
Washington, DC 20520
(202)647-3228 (ph)
Warner-KramerDM@state.gov

David Whitaker
720 Tennent Street
Charleston, SC 29412
(843)953-9392
david.whitakersafmc@gmail.com

Spud Woodward
860 Buck Swamp Road
Brunswick, GA 31523
(912)258-8970 (ph)
swoodwardsafmc@gmail.com

SOUTH ATLANTIC FISHERY MANAGEMENT COUNCIL

COUNCIL STAFF

Executive Director
Gregg T. Waugh
gregg.waugh@safmc.net

Deputy Director – Science & Statistics
John Carmichael
john.carmichael@safmc.net

Deputy Director - Management
Dr. Brian Cheuvront
brian.cheuvront@safmc.net

Fishery Scientist
Myra Brouwer
myra.brouwer@safmc.net

Citizen Science Program Manager
Julia Byrd
julia.byrd@safmc.net

Admin. Secretary/Travel Coordinator
Cindy Chaya
cindy.chaya@safmc.net

Fishery Scientist
Dr. Chip Collier
chip.collier@safmc.net

Purchasing & Grants
Cierra Graham
cierra.graham@safmc.net

Fishery Biologist
Dr. Mike Errigo
mike.errigo@safmc.net

Fishery Economist
John Hadley
john.hadley@safmc.net

Public Information Officer
Kim Iverson
kim.iverson@safmc.net

Administrative Officer
Kelly Klasnick
kelly.klasnick@safmc.net

Senior Fishery Biologist
Roger Pugliese
roger.pugliese@safmc.net

Outreach Program Coordinator
Cameron Rhodes
cameron.rhodes@safmc.net

Staff Accountant
Suzanna Thomas
suzanna.thomas@safmc.net

Fisheries Social Scientist
Christina Wiegand
christina.wiegand@safmc.net

Outreach Specialist
BeBe Harrison
bebe.harrison@safmc.net

Outreach Specialist
Allie Iberle
allie.iberle@safmc.net

SEDAR Coordinators

Dr. Julie Neer
julie.neer@safmc.net

Kathleen Howington
kathleen.howington@safmc.net

SNAPPER GROUPER ADVISORY PANEL (continued)

Deidra Jeffcoat
20 South Cromwell Road
Savannah, GA 31410
(912)308-5317 (ph); (912)897-3460 (f)
dcjeffcoat@comcast.net
3/16*,3/19*
Charter

Gary Manigault Sr.
1299 Sand Pine Rd
Ladson, SC 29456
(843)471-4637 (ph)
garymanigaultsr@yahoo.com
9/17*
Recreational/Charter

Randy McKinley
114 Friendly Lane
Hampstead, NC 28443
(910)612-5260
emckinley3@aol.com
10/18*
Commercial

Greg Mercurio
1211 20th Terrace
Key West, FL 33040
(305)923-4401 (ph)
greg@yankeecapts.com
3/17*
Charter/Headboat

Jim Moring
171 Church Street Suite 300
Charleston, SC 29401
(843)343-5757 (ph)
commonwealthjimm@prodigy.net 9/17*
Recreational/Restaurateur

David Moss
7312 Via Leonardo
Lake Worth, FL 33467
(954)214-7954 (ph)
david@smoss.com
12/13*, 3/17*
Recreational

Fentress "Red" Munden
P.O. Box 1165
Morehead City, NC 28557
(252)226-9015(h); (252)241-9541(m)
fmunden@gmail.com
9/12, 9/15, 10/18* Conservation

Kerry O'Malley-Marhefka
P.O. Box 2343
Mt. Pleasant, SC 29465
(843)452-7352 (ph)
abundantseafood@gmail.com
6/14, 9/17*
Commercial/Dealer

James Paskiewicz
7987 Shark Drive
Marathon, FL 33050
(505)304-6210 (ph)
islandskipperfishing@gmail.com
3/18*
Commercial

Andy Piland
P.O. Box 533
Hatteras, NC 27943
(252)216-9273
andypiland@gmail.com
9/15, 10/18*
Charter

Cameron Sebastian
228 Green Lake Drive
Myrtle Beach, SC 29572
(843)450-6813
cameron@coastalscuba.com
3/19*
Charter/Commercial

David Snyder
55 Cinema Lane
St. Simons Island, GA 31522
(912)399-3813 (ph); (912)638-9163 (f)
dave@halyardsrestaurant.com
12/13*,3/17*
Consumer Representative

Non-Voting

Dr. Todd Kellison
NOAA - Beaufort Lab
Chief, Fisheries Ecosystem Branch
101 Pivers Island Road
Beaufort, NC 28516
Todd.Kellison@noaa.gov
At-Large

SNAPPER GROUPER ADVISORY PANEL (continued)

James Hull Jr., Chair
1258 John Anderson Drive
Ormond Beach, FL 32176
(386)547-1254 (ph); (386)615-9333 (f)
hullsseafood@aol.com
12/13*, 3/17*
Commercial/Dealer/Retail

Robert Lorenz, Vice Chair
1509 Meridian Terrace
Wilmington, NC 28411
(910)232-4755 (ph)
blpinfisher@gmail.com
12/14, 3/18*
Recreational

Jim Atack
111 SW 20th Street
Oak Island, NC 28465
(910)520-8279
Jimatack82@gmail.com
9/10*,12/13*,3/17*
Recreational

Vincent Bonura
800 SW 12th CT
Fort Lauderdale, FL 33315
(954)240-8615 (ph)
SailRaiser25C@aol.com
9/17*
Commercial

Richen "Dick" Brame
517 Braddock Street
Wilmington, NC 28409
(910)599-5245 (ph)
dbrame55@gmail.com
9/15, 10/18*
NGO

Randall Beardsley
5929 Broken Bow Lane
Port Orange, FL 32127 (
386)804-0352 (ph)
rscbeards@yahoo.com
10/18*
Recreational

Jack Cox Jr.
141 Bayview Blvd
Atlantic Beach, NC 28512
(252)728-9548
Dayboat1965@gmail.com
9/17*
Commercial

James Freeman
122 Springwood Dr.
Daytona Beach, FL 32119
(386)882-6151 (ph)
Cfreeman23@bellsouth.net
12/13*, 3/17*
Commercial

Robert Freeman
221 Smith Street
Atlantic Beach, NC 28512
(252)726-9814 (ph)
sunrise@coastalnet.com
3/17*
Charter

Richard Gomez
289 Leo Lane
Key West, FL 33040
(954)798-7764
captainconch12@yahoo.com
9/17*
Charter

Lawton Howard
924 Champney
St. Simons Island, GA 31316
(912)256-2110
Titantitle@windstream.net
3/19*
Recreational

Rusty Hudson
P.O. Box 9351
Daytona Beach, FL 32120
(386)239-0948 (ph); (386)253-2843 (f)
DSF2009@aol.com
9/15, 10/18*
Commercial