GULF OF MEXICO FISHERY MANAGEMENT COUNCIL

MEETING OF THE STANDING & SPECIAL REEF FISH, SOCIOECONOMIC & SHRIMP SCIENTIFIC AND STATISTICAL COMMITTEES

GMFMC Office — Tampa, Florida

MAY 10-11, 2022

STANDING SSC VOTING MEMBERS

James Nance.....
Luiz Barbieri.....
Harry Blanchet.....
David Chagaris.....
Benny Gallaway.....
Douglas Gregory.....
David Griffith.....
Paul Mickle.....
Trevor Moncrief.....
Will Patterson.....
Sean Powers.....
Jim Tolan.....
Richard Woodward.....

SPECIAL REEF FISH SSC VOTING MEMBERS

Jason Adriance.....
Michael Allen.....
John Mareska.....

SPECIAL SHRIMP SSC VOTING MEMBERS

Donald Behringer.....
Peyton Cagle.....
Jason Saucier.....

SPECIAL SOCIOECONOMIC SSC VOTING MEMBERS

Luke Fairbanks.....
Cynthia Grace-McCaskey.....
Jack Isaacs.....

STAFF

John Froeschke.....Deputy Director
Jessica Matos.....Document Editor & Administrative Assistant
Ryan Rindone.....Lead Fisheries Biologist/SEDAR Liaison
Bernadine Roy.....Office Manager
Carrie Simmons.....Executive Director

OTHER PARTICIPANTS

Steven Atran.....FL

Shannon Calay.....SEFSC
Judd Curtis.....SAFMC
Michael Drexler.....Ocean Conservancy
Tom Frazer.....GMFMC
Peter Hood.....NMFS
Patrick Lynch.....NMFS
Skyler Sagarese.....SEFSC
Eric Schmidt.....FL
C.J. Sweetman.....FWC
Mike Travis.....NMFS
Bob Zales.....Panama City, FL

- - -

TABLE OF CONTENTS

TABLE OF MOTIONS

- - -

The Meeting of the Gulf of Mexico Fishery Management Council Standing and Special Reef Fish, Special Socioeconomic & Special Shrimp Scientific and Statistical Committees convened on Tuesday morning, May 10, 2022, and was called to order by Chairman Jim Nance.

INTRODUCTIONS
ADOPTION OF AGENDA

CHAIRMAN JIM NANCE: Good morning, my name is Jim Nance, and I am the chair of the Scientific and Statistical Committee for the Gulf of Mexico Fishery Management Council. We appreciate your attendance on this webinar and input in this meeting. Representing the council is Tom Frazer. He's not here yet, but, when he gets here, we'll appreciate his being here.

Council Staff in attendance include Carrie Simmons, John Froeschke, Ryan Rindone, Jessica Matos, and Bernie Roy. Notice of this meeting was provided to the Federal Register, sent via email to subscribers of the council's press release email list, and was posted on the council's website.

This meeting will include the following topics: Presentation on National Standard 2 and the Best Scientific Information Available; Discussion on the Acceptable Biological Catch Control Rule; Update of the Number of Gulf Shrimp Permits, Economic Estimates, and Royal Red Landings; Review the Southeast Fisheries Science Center Analysis of Red Grouper Stock Assessments Using Alternative Marine Recreational Information Program Landings Data; Discussion of Goliath Grouper; and Review of Terms of Reference for State Reef Fish Survey Run of SEDAR 72 Model for Gag Grouper.

This webinar is open to the public and is being streamed live and recorded. A summary of the meeting and verbatim minutes will be produced and made available to the public on the council's website.

Webinar attendees, to signal you wish to speak during the meeting, please use the raise-your-hand function, and the staff will display your name. Please remember to identify yourself before speaking and also to re-mute your line each time you finish speaking. A digital recording is used for the public record, and, therefore, for the purpose of voice identification, we will call attendance for the SSC members, including those attending virtually and here in the meeting. Please identify yourself by stating your full name when your name is called for attendance. Once you have identified yourself, please re-mute your line, or turn your microphone off, in this case. We'll go ahead and start on my left.

MR. RYAN RINDONE: Ryan Rindone, Gulf Council staff.

DR. SHANNON CALAY: Shannon Calay, Southeast Fisheries Science Center.

DR. PAUL MICKLE: Paul Mickle, Northern Gulf Institute.

MR. JOHN MARESKA: John Mareska, Reef Fish SSC.

DR. JIM TOLAN: Jim Tolan, Standing SSC.

MR. JASON ADRIANCE: Jason Adriance, Reef Fish SSC.

DR. JACK ISAACS: Jack Isaacs, Socioeconomics.

DR. RICH WOODWARD: Rich Woodward, Standing SSC.

MR. JASON SAUCIER: Jason Saucier, Special Shrimp.

MR. TREVOR MONCRIEF: Trevor Moncrief, Standing SSC.

MR. DON BEHRINGER: Don Behringer, Special Shrimp.

DR. DAVID CHAGARIS: David Chagaris, SSC.

DR. DAVID GRIFFITH: David Griffith, SSC.

DR. CINDY GRACE-MCCASKEY: Cindy Grace-McCaskey, Socioeconomic SSC.

DR. SEAN POWERS: Sean Powers, Standing SSC.

DR. LUIZ BARBIERI: Luiz Barbieri, Standing SSC.

CHAIRMAN NANCE: Now let’s go ahead and do the ones that are online, Jessica, please.

MS. JESSICA MATOS: Harry Blanchet.

MR. HARRY BLANCHET: Harry Blanchet, Standing SSC.

MS. MATOS: Benny Gallaway.

DR. BENNY GALLAWAY: Benny Gallaway, Standing SSC.

MS. MATOS: Doug Gregory.

MR. DOUG GREGORY: Doug Gregory, Standing SSC.

MS. MATOS: Will Patterson.

DR. WILL PATTERSON: Will Patterson, Standing SSC.

MS. MATOS: Luke Fairbanks.

DR. LUKE FAIRBANKS: Luke Fairbanks, Special Socioeconomic SSC.

MS. MATOS: Mike Allen.

DR. MIKE ALLEN: Mike Allen, Reef Fish SSC.

CHAIRMAN NANCE: Okay. Perfect. Thank you, and I appreciate all of those in attendance online, and certainly we have a good group here in the meeting, and it's nice to be able to see faces again and be able to interact, and so thank you for coming.

We'll go through the approval of the verbatim minutes. Any changes or recommendations for those minutes? Let's go ahead and do the adoption of the agenda, and so are there any modifications for the agenda? Matt, I know you have one. We're going to have, underneath Other Business, volunteering for the EDM model for the shrimp assessment, and we'll look for some SSC members to volunteer for that, and that will be under Other Business. Is there anything else we need to add for the agenda? Hearing none, is there any motion to adopt the agenda?

DR. BARBIERI: So moved, Mr. Chairman.

CHAIRMAN NANCE: Do we have a second?

DR. CHAGARIS: Second.

APPROVAL OF VERBATIM MINUTES AND MEETING SUMMARY: MARCH 8-10, 2022 MEETING

CHAIRMAN NANCE: Okay. Second by Dave. Any opposition to the adoption of the agenda? Seeing none, the agenda is adopted. You've each had an opportunity to look over the minutes, and I'm going to do both of them together, the minutes and the meeting summary. Any changes to either one of those two documents? Hearing none, is there a motion to approve the minutes and the meeting summary?

DR. BARBIERI: So moved, Mr. Chairman.

CHAIRMAN NANCE: Okay. Thank you, Luiz. Is there a second?

DR. CHAGARIS: Second.

SELECTION OF SSC REPRESENTATIVE FOR THE JUNE 21-24, 2022 GULF COUNCIL MEETING IN FORT MYERS, FLORIDA

CHAIRMAN NANCE: Dave, thank you. Any opposition to the approval of the minutes and the meeting summary? Okay. There looks like there was no opposition to that. The scope of work, we're going to probably, Ryan, instead of going through that, we'll do it before each of the agenda items. Item Number IV, I have talked to Luiz, and I talked to Carrie a little bit, and I think, just for consistency, I think I will just make it where I will go to the council meeting and represent the SSC, and I think, from a continuity standpoint, I think that would be good.

If there is a chance that I won't be going, we'll look for other representation for those council meetings, and so we probably won't have this item on the agenda in the future.

Item Number V, we'll do the -- We have a presentation on National Standard 2 and the Best Scientific Information Available, and we have Dr. Patrick Lynch here to be able to do that. Ryan, would you please go over the scope of work for that item?

PRESENTATION: NATIONAL STANDARD 2 AND THE BEST SCIENTIFIC INFORMATION AVAILABLE

MR. RINDONE: Sure. Thank you, Mr. Chair. Dr. Lynch is from NMFS Headquarters, and he's going to provide a brief overview of National Standard 2 of the Magnuson-Stevens Fishery Conservation and Management Act, which is the law that governs a lot of what we do as part of this whole council management process, and, specifically, he's going to detail National Standard 2, which talks about the requirements for NMFS and the councils' use of best scientific information available when recommending management measures for fisheries, and so this is a good opportunity for the SSC to ask questions of Dr. Lynch, as appropriate.

CHAIRMAN NANCE: Thank you. Dr. Lynch, go ahead, and we'll turn the time over to you for the presentation.

DR. PATRICK LYNCH: All right. Hi, everybody. Thanks for the invite. It's good to here, and it's been two years and two months since I've been on a plane, and so I appreciate that. Okay. Diving right in, I gave this presentation at a MRIP transition workshop back in February, I think. Luiz saw it, and he thought it would be good to come down and talk to you all.

Actually, it's not as much on NS 2, and I'll touch on it, but it's more about achieving BSIA, which is related, but we wrote a little framework for that. Okay. Here we go. The first slide is the takeaways, everything we need to know, and this is the one to pay attention to, I guess.

We have the law, National Standard 2, and it mandates BSIA. There was a document, a NMFS procedure, back in I want to say 2016, that documented all the regional frameworks, your SEDARs and the like around the country, and showed that each of those is NS 2 compliant for ensuring BSIA is used for management, and so no news here. There are multiple data streams that come into stock assessments, and they can all be on the table, and the other advice-driven processes, and so our regional framework needs to be apply consistently to all the information on the table, and that could be data, data streams, assumptions made, the models, and all that stuff should be run through the BSIA framework consistently.

If you do that through a peer review process, then the peer review should be scoped according to how much new information, or new assumptions, are being made, and so you don't necessarily to do as rigorous of a process with minimal changes from the previous analysis.

You end up with a final accepted approach, eventually, and, if it runs through the BSIA framework, that's where we say that the management is based on the best scientific information available, and so it's not saying reviewing individual datasets, or individual sample designs, or models or whatever, to say that those particular things are BSIA, but it's more that, when you do management, and you run all that through the same framework consistently, then the management is based on BSIA, and we get into a little linguistic complication here, when we start saying, you know, this survey or whatever provides BSIA.

Part of that reason is you might use -- The survey, for example, if you use that example, might be appropriate for one species, but maybe it doesn't have the coverage for another species, and so it's not that in one case you're using it and one case you're not, and so you wouldn't want to say that survey provides BSIA.

I linked to some documents here. There's the NS 2 Guidelines, which NMFS put out for implementing NS 2, and that description of the peer review process that I was mentioning, and then the focus here is mostly on the middle one, on the BSIA framework that we developed as a procedural directive in this.

Okay, and so, if we dive into NS 2 Guidelines, again, we're not really going to -- I wasn't going to dwell on this too much, and this basically laid out the criteria that should be used when evaluating scientific information, and so it lists those here, from relevance down to peer review, and so that should be in people's minds when we're dealing with science, and I'm not going to go through those one-by-one.

We followed up those NS 2 Guidelines with this procedural directive, and it's meant to be complementary, and it doesn't define new criteria. What it does is it tries to lay out just a general framework, and we know that each region has its unique idiosyncrasies, for good reason, and so the idea is to provide some general bounds and process around that, to basically say, okay, we know what the criteria are, but who does what and when do they do it, and that's kind of what we're laying out here.

That's just consistency and transparency is the goal there, and it's from a stock assessment standpoint, and so the steps here are from stock assessment, peer review, revising the assessment, what the SSC and NOAA do before the council develops its catch specifications, and then coming back to NOAA Fisheries for final approval and essentially certifying that the management is based on BSIA.

We're looking at that framework. The stock assessment step, everybody knows what a stock assessment is, and the framework covers from data-limited to comprehensive, and so it's not specific to a type of assessment, and the idea, of course, is that the assessment is established and guided by its terms of reference, and so that should put the bounds on the type of analyses that are being done.

Once an assessment is drafted, I guess, it goes through the peer review process, which that one paper laid out as our NS-2-compliant processes, and so, again, building in all the data and all the analyses. The communication products, the presentations and the report, anything that might come in from outside the traditional assessment process, all of that should be in there together, running consistently through peer review, and, again, the peer review itself will have a terms of reference that bounds what it is reviewing.

Looking at all the technical details, these can be taken individually, and so looking at stock status determination, and do the technical -- Does the science support that, and looking at the catch and control rule specifications themselves, and so are the projections supported by the science?

You might arrive at some of these and not others. You may say, okay, this is good for an overfishing determination, but not an overfished determination, and so, again, you have something like the BSIA framework that is not saying something is BSIA for a specific purpose, but, when it moves through that framework, and is appropriate for a purpose, then you can be confident that management is based on it.

The assessment is done, and there is some sort of peer review, and then the authors are revising it, and so they respond to the peer review, and, of course, they don't have to take -- This is scientific judgment and expert opinion about how you use the peer review and adapt the assessment, and so this should be well coordinated. This is where the SSC and NMFS should be communicating, and the SSC should be involved in knowing how NMFS is responding to peer review, and, again, there's a terms of reference here, and so, while good recommendations might come from peer reviewers, it doesn't mean that it's within the scope for how much change can happen in an assessment, and so it has to be held to some bounds.

Okay, and so we've moved through revising the assessment, and this is where the SSC and NOAA Fisheries coordination becomes key. The SSC should be reviewing the peer review and the assessment at that point, looking at the package that's come forward, and then making -- Using it to make their ABC recommendations.

In part of that, it should be looking at the process that was taken. Did those first three steps -- Was that taken appropriately, and, in this case, the SSC can feel confident that they're moving consistently with the BSIA framework, and so, when the SSC makes an ABC recommendation, the assessment results come to a Headquarters database, and they are entered there, and that record is locked, when NMFS Headquarters communicates with the assessment authors, or the POC in the Science Center and determines that it's locked.

In this case, there is an implicit determination by NMFS that, okay, these assessment results are consistent with BSIA, and so NMFS uses the assessment to make a stock status determination. That's kind of a key point that gets messed up from time to time, that it's actually NMFS' Sustainable Fisheries Office that makes the status determination, and it's not an assessment author or a peer review panel or an SSC or a council. This is a NMFS final decision.

Okay, and so that gets us there, and there is this bullet here

about NMFS establishes a POC to the SSCs to facilitate and address concerns, and this recommendation was in there, and I think it was a good idea at the time, and there are a few of these situations out there, where NMFS has a liaison working with the SSC, and I'm not sure how it works all over, and it's not supposed to be somebody who sits on the SSC, but someone representing the Science Center and NMFS, and it's to help facilitate this BSIA process, talk about concerns, maintain good communication, but we've got to recognize that there's a capacity issue here. I don't know if all the Centers can afford a full person to be doing this, but it's there, and it could be helpful.

After all that, councils develop their specifications, or ACLs, and then it comes back to NMFS for approval, and so, in the end, NMFS is saying, okay, these are the management measures, and, when accepting that, it's a formal assertion, or certification, that management is based on BSIA, and so you hear a lot on the process that this is BSIA, and various groups are stamping it as approval, but, in the end, it's when the management is in place that that certification is made.

That's the last slide, and we're just summarizing here, and we have this procedural directive in place. It establishes this framework, and the procedural directive called for this framework to be done by May of 2022, and so here we are, and all the regions are supposed to have worked with their councils, Regional Offices, and Science Centers together to come up with a framework.

I think we actually are in a pretty good shape. The last time I looked, we have a couple that are done, and a lot of them, and I believe the Southeast, are with the council to review, and so we should be hitting the finish line on most, if not all, these regional frameworks, and, if that's not the case, please let me know.

Okay, and the whole purpose is to have a good, open, transparent and consistent process and to ensure BSIA is used for management, and, of course, there's a highlight down here, and this was particularly meant for the transition, MRIP transition, workshop, and it's just a single element data series model is not, in itself, BSIA. Okay, and so I think that's it. Yes, that's the last of it, and I'm happy to have some discussion.

CHAIRMAN NANCE: Thank you. Any comments or questions from the SSC? Ryan, please.

MR. RINDONE: I just wanted to note something that you guys have been doing with the stock assessment reviews for the last few years

now, and you might remember, back in July and August of 2020, you initially had a lot of the discussions with the Office of Science and Technology about the Marine Recreational Information Program and the Fishing Effort Survey estimates, and, since that point, and since the use of that survey in the stock assessments, you guys haven't had a blanket endorsement of the survey, but rather you have reviewed the individual assessments as a package, and you approve, or recommend, that the completed assessment does or does not represent the best scientific information available.

As far as the SSC's performance with respect to the approval of science products for use in management, I would think that your performance has been in keeping with what Dr. Lynch has been presenting, as it relates to the stock assessments.

CHAIRMAN NANCE: Thank you, Ryan. Trevor.

MR. MONCRIEF: I have a quick question, since we covered the transition group stuff and the surveys, and so I've got the policies and procedures that you provided, and one of them is the rec survey certification and implementation, and are these policies for strict adherence when it goes through review? In other words, when review happens, if one of these elements is not met, it would be deemed as unsatisfied?

DR. LYNCH: You're asking a good question, and I have specifically stayed out of the whole MRIP realm, and so we have another division at S&T that Richard Cody and company cover that specifically, and, as I understand, that discussion continues, right, and they continue to evaluate the surveys.

They're doing another study, I think, at some point, to evaluate them again, and so I don't think -- You know, the policies are set up for a reason, and I've got to say that I'm not sure, beyond that, where it's headed, and I know that it's going to involve a lot of objective review still, and continued working with the folks involved, and I can't give a detailed answer though, I'm afraid.

MR. MONCRIEF: All right. Well, I mean, I think, since we're going down this road right now, and, by the end of it, we're going to expect to be done, and not revisiting a given thing, I mean, I think it's fairly known, at this point, some of the objectives, at least that our states have to it, and, let's see, I will point you this way, right, and there's the flow of logic.

In order to go through what you said, we've got to go through rec survey certification and implementation. In order to go through the rec survey implementation and certification, we have to meet

the MRIP data standards, and one of the MRIP data standards is adherence to the PRA, and the PRA itself, as many folks have noted, is pretty much to handcuff the federal system to not be able to ask more questions and not be able to provide flexibility or anything like that, which the state surveys can do.

I don't want to get all the way down this road, and, all of a sudden, someone's hands get thrown up at the end by saying, oh, well, we need to go through this process in order to finish, because the whole goal has been flexibility within the surveys and to do things outside of how it's been established, and so I know that's probably not a question for you, but, as long as you have it in your head that, at the end of this process, that question gets raised, and you'll have an idea of why that has been in question.

DR. LYNCH: Thanks, and that's a good point, and it's not a great question for me, but I talk to the folks who it is a great question for, and so I'll bring it back, and we have meetings once in a while, just generally, and I will bring it up, and I know they've heard it, but to say that it came up here is valuable.

I will say -- One thing I will say on the point, just high level, is, for efficiency, it tends to be good to review methods, because, once you get a method reviewed, people are comfortable with it, whether it's any data collection or analysis platform, and it should be held to less scrutiny in the review process though. Things should move more efficiently, and you wouldn't have to revisit, every time, how it's designed and how it's implemented.

CHAIRMAN NANCE: Thank you. Benny.

DR. GALLAWAY: From time to time, in recent meetings, we've been asked to designate certain datasets, or models, as BSIA, and has that been inconsistent with what we're hearing now, and should we not be doing that, or is there another -- Am I missing the point?

DR. LYNCH: That's a good question, and I think that's a big part of why I came down here. I don't think we should be calling specific things BSIA, or reviewing them to say is this BSIA, and, I mean, that's part of the lingo, and we can't avoid it, and I think we're not consistent in NMFS in the way we talk about it, at any level really, and only four of us wrote this procedural directive, and so we were well coordinated, but I don't think we've had the big full NMFS discussion so that everybody can get on the same page with language, but I don't personally think that we should be talking about a specific element as BSIA, because then you set yourself up for the next time you want to use it might not

be appropriate, and now somebody has said it's BSIA, and so you've created a conflict that may not be worth having.

DR. GALLAWAY: If we're asked to choose between datasets as being more appropriate, should we use -- Is there another term that we should be using, or how do we -- When asked to make that decision, how do we characterize that decision with a name, or does it need a name? Do we say these are the best available data for that purpose and leave it at that, or what?

DR. LYNCH: I think -- I mean, if we want to be wordy, you can say we see this as, like you said, the best available data for this purpose. One of the ways we've been saying it is that something is consistent with BSIA, and, in saying that, that means it's part of the -- It's been evaluated in an appropriate way, and consistently with how everything else is evaluated.

DR. GALLAWAY: Excellent. Thanks.

CHAIRMAN NANCE: Thank you, Benny. Luiz.

DR. BARBIERI: Thank you, Mr. Chairman. Thank you, Patrick, for coming down and giving this presentation. I mean, this has been a very contentious, I would say, at times, issue for us, just because, like I said, not everybody being on the same page and having a common understanding of what we are talking about here, and so a couple of questions, or, first a statement.

I think one of the very helpful things about this presentation and your perspective on this is that we do this assignment of BSIA to specific databases all the time, and, just last week, I was at the SEDAR 74 data workshop, and every other presentation that came up on the board about a specific working group, working on different surveys or data sources, was discussing BSIA, and so I think, to some extent, we are all confused and not necessarily up-to-speed on this, which leads to my next question. I remember the fact that this framework was still in development, in draft format, and I think you said it's been finalized now?

DR. LYNCH: The document or the framework for the Southeast?

DR. BARBIERI: No, just the document in general, the general, national-level guidance.

DR. LYNCH: Yes, and some years ago that was --

DR. BARBIERI: I see. I kind of missed that, that that was completely finalized.

DR. LYNCH: Yes.

DR. BARBIERI: But that leads us to this regional BSIA framework, and I guess I saw, yesterday, an announcement that HMS had theirs now posted for public comment, and who is responsible for developing those regional frameworks?

DR. LYNCH: The idea -- I will just skip back a slide or two, or I won't, but the idea was that the SSC -- Sorry. The council.

CHAIRMAN NANCE: Jessica can move it, if you just tell her which one that you want to be on.

DR. LYNCH: There it is, and so it's the bullet under -- Shoot. I got the wrong one. We've got to go back. Well, I'm lost in the presentation, but let's just say the idea is the council, the Science Center, the Regional Office, basically that group, was supposed to work together, and, in the Southeast, it's complicated, obviously, because you've got multiple councils and HMS, and so the Center and Regional Office are going in a lot of directions, but that was the plan. When you say those three groups, that doesn't mean that the public and everybody else can't weigh-in, but it's just they're the ones who are supposed to be finalizing it together.

DR. BARBIERI: Thank you, Pat. I appreciate it.

CHAIRMAN NANCE: Any other questions? Jim.

DR. TOLAN: Thank you, Mr. Chairman. To follow-up on what Luiz was saying, we routinely make that motion at the end of an -- When we review an assessment, and for a long time, we sort of combined it together with this assessment is BSIA and suitable for management advice, and we would go forward with that. Then we got admonished by legal, and they said, no, you really can't put those things together, and so we started making separate motions, and so, if we're doing it at the assessment level -- You made a couple of points of about individual products, and you really don't want to label them that way, and so should we still be doing this motion at the assessment level and say we think it's BSIA, or is it, again, like you were saying, up to NMFS? Thank you.

DR. LYNCH: The NMFS final stuff is the final, okay, we did it, basically. I don't want to scare people off from saying it, and we should be talking about BSIA, right, and that's National Standard 2, and it should be part of the conversation, a big part, and so, when you're talking about the assessment -- I mean, I don't

-- I wouldn't suggest a formal declaration from the SSC that the assessment is BSIA, but you certainly want to talk about whether it's moving through the process appropriately and is likely to support management that would be based on BSIA, altogether, when it gets to the end.

CHAIRMAN NANCE: Ryan, to that point?

MR. RINDONE: Thank you, Mr. Chair. Dr. Lynch, we've had conversations with GC about this in the past, specifically as it relates to the assessment, and so this was the guidance that Dr. Tolan is mentioning that we were given, was that we should -- The SSC should say that the recommend that the SEDAR 61 assessment of red grouper represents the best scientific information available, and then they would say the SSC recognizes that the SEDAR 61 assessment of red grouper is suitable for management advice, and then they would go from there into another motion about the overfishing limit and acceptable biological catch.

That's the way that we have been doing that, and the justification for that that we had received is that NMFS' determination and defense of, in this example, SEDAR 61 as the best scientific information available is supported by the SSC's peer-reviewed, presumably independent, determination of as much, which, along with the Science Center's ultimate determination of whatever management action may come from it, that all of that was based on the best scientific information available.

I guess we're kind of at a head-scratching moment here, and, I mean, should we continue to say, in the case of stock assessments, which, of course, represent the completed package that management advice will be predicated upon -- Should we continue to have the SSC vote on whether they think it represents, or is in keeping with, or if there's a particular kind of language, but, like I said, the GC advice that we've received was pretty explicit that something about BSIA, with respect to the assessment, needs to be said.

DR. LYNCH: Thanks for that question. I did not specifically consult with a lawyer before coming down, and we should have that conversation, and it's nuanced, and my recommendation, without legal in the room, would be to just replace it with, instead of "accepted as BSIA", that it's "consistent with BSIA", and I think that buys you a little bit of space within the framework.

CHAIRMAN NANCE: Okay. Thank you. That's a question, because we have talked about this at length at each of our assessments, because we do -- For the assessments, we see what items are coming

into it, and we know each of the data streams, and, as a whole assessment, we are comfortable with it being BSIA, and that's what we've stated, but I think just the nuances of how we say that maybe is -- Okay. John.

DR. JOHN FROESCHKE: Jessica, I think it's Slide 6, and can you pull that up? It's the next one, Slide 7. My question is, in the process of the SSC reviews an assessment, and they say this is consistent with BSIA, in the event that a stock is overfished, and requires a rebuilding plan based upon that information, in addition to those steps, it also sets a time-limited sequence of events, right, and so what happens in the event that we have a determination such that now we're locked into a timeframe, and, well, after -- In the process of getting to Step 6, where we actually have management catch specifications in place and all that, we discover that there was a misunderstanding, or an error or something, in that, but there isn't a process to revisit that BSIA, yet you're still locked into that timeline.

In that case, the whole process becomes difficult to manage, in that the council doesn't have the ability to work towards the management, because they don't have actionable science, but yet they're locked into the timeline from the original determination, and is there any process to work through that?

DR. LYNCH: Thank you. I don't know if you'll be satisfied with my answer. I think, ideally, when the regional framework is established, it would touch upon some need for deviation, when there are situations like this that arise, but you can't predict everything that's going to happen along the way.

I think that's primarily why we have that POC recommendation, so that somebody can be there with the SSC, as things are happening kind of real time, and bring them back to NMFS, to lawyers and to Regional Offices, and figuring out a quick and efficient way through it, but, no, we didn't specifically -- I mean, again, this is general bounds on the overall framework, and we didn't really get in the weeds on what happens if you have to revisit in the middle of it, and you can't go back to the peer review panel, for example.

CHAIRMAN NANCE: John, please.

DR. FROESCHKE: I guess the reason that I'm asking is that the science continues to evolve in our region, which is good, but the way that we do the projections now, with the MRIP-FES and all that, requires more allocation kinds of things, which we're avoiding, which is fine, but the point of the matter is that you often don't

know the final where you stand with regard to stock status and all these things until much later, sometimes six months later, or even longer, in a recent example, after that original determination is made that we've reviewed an assessment product, and we've said you're overfishing, and now you're well down this timeline on your two years, but you still don't have catch levels that you could begin to develop management, necessarily. To the extent that there is iterations going back and forth, you're just burning through a timeline, which is entirely problematic.

DR. LYNCH: I've got to punt on the efficiency issue. I don't think it's outside the BSIA framework though. Even if you're being dragged along, you still have the appropriate communication, and you still have the right, you know, review teams and SSC in the loop, I hope, and so you're able to discuss the decisions that are being made along the way, and, yes, I think we've had poor coordination examples all over the country, and that basically was the impetus behind the main recommendation from this to have the three groups, the Center, the Regional Office, and the council, sit down and work through the steps, in detail, within these bounds, but in detail.

CHAIRMAN NANCE: Thank you. Carrie.

EXECUTIVE DIRECTOR CARRIE SIMMONS: Thank you, Mr. Chair. Thanks for the presentation. We have seen a draft of the regional framework, and staff has provided extensive edits on that, and we feel like it needs to get a lot more meaty. We need a lot more information before it even comes to the SSC, and we would like to see more what is the role of the SSC at certain stages, and like sometimes we'll have robust stock assessments, and there will be a CIE review, and that's available to the SSC, and other times you may have an ad hoc approach that you're being asked to review, and so we would like a lot more meat on that before we bring it to you, and so we have provided that to the Regional Office, and they're going to get back with us.

CHAIRMAN NANCE: Thank you, Carrie. That's perfect. Doug Gregory, please.

MR. GREGORY: Thank you, Mr. Chair. Maybe I am not understanding this conversation, but, in the policy document of best scientific information available, it relies on the SSC to make the recommendation to the council that it considers the process as being consistent with the best scientific information available, and so the SSC recommends it being the best scientific information available, but, ultimately, it's National Marine Fisheries Service's decision as to whether it is or not, and so we still

have to consider that and make that proclamation, I think, but it's not the end-all, and it's just a recommendation to the council and NOAA Fisheries. Thank you.

CHAIRMAN NANCE: Thank you, Doug, and I think, if we use the term "the SSC considers this", then it can move up the chain. Dr. Lynch.

DR. LYNCH: Thanks, Mr. Chair. I mean, I think you have it right, and that's exactly how it's intended, and these BSIA evaluations certainly need to be made along the way, but, eventually, there's a management decision, and a management measure, put in place, and it's at that step that it says, okay, all this was done consistent with the process, and, by saying that -- You know, NMFS, in the end, saying that we accept and approve this management action, that's NMFS saying it's made basically a certification that it was based on BSIA, but, yes, these discussions along the way, thinking about BSIA and evaluating and determining if the framework has been followed properly, are hugely important and fundamental to the framework.

CHAIRMAN NANCE: Thank you. Luiz.

DR. BARBIERI: Thank you, Mr. Chairman. Patrick, this is going to sound a little bit over the top and prescriptive, and it's not meant to be this way, but, just because of our region, the way that we are, right, that we have the Science Center and the Regional Office, but we have those institutions serving three councils, and so we have three SSCs, and three councils, and sometimes things get a little confused, because we hear each other talking, right, or we hear about comments that each other made, in terms of the different SSCs, for example, conversations between different councils and SSCs, and we can get kind of, you know, wrapped around those conversations, right, and so, if possible, and that's why I'm saying this is a little over the top, but it would be good for you to give this same presentation and have this same discussion with the South Atlantic and the Caribbean, because I can tell you, for me, this conversation today has been extremely helpful.

I think it helped clarify a lot of issues, and sometimes it's just a confirmation, and you think -- You read something, or you hear something, and you think a certain way, but you don't have that confirmation that this is consistent with the general guidance and how it's going to be handled at that broader policy level, and so I think it would be helpful, for us even here, to have this consistency in presentations and discussions at the South Atlantic and the Caribbean as well, and so, if possible, and that's just a

suggestion and a request, please.

DR. LYNCH: Okay. Thank you, sir. I will tell my boss that Luiz recommends a roadshow.

CHAIRMAN NANCE: At least for three councils. Paul.

DR. MICKLE: I appreciate the presentation, and this helps a lot. I think, maybe, to help with the SSC, we can throw flags, if we have concerns about design or data collection analyses or interpretation of it, right, and so, even though we don't formally do a BSIA to a dataset or something, we can throw up major concern about methodologies or something, and I think that's how I interpret some of our biggest roles here as the SSC, whether it's Standing or Reef Fish or whatever part of it you are, and it's a peer review, just like a journal does.

We say no more than we say yes in the journal process, or at least a lot of folks do, but, anyway, I think that's how I interpret the value here, and I appreciate this, because it gives us the bounds, but we still have all that capability, and this come up, and examples are we had some major methodological issues with some of the snapper stuff that came in front of us, right, in the last year, and we worked through that, and we identified spatial bias in some of the methodology and some of the sampling stratifications and all those things, but that's the scientific meat of what our purpose is here, in my opinion.

One comment you've made, a couple of times, is the SSC is supposed to -- You may have to say it again, but consistent with the process, and we stamp it that way, and that just seems like something that a lawyer should do, and not a bunch of scientists, and we don't check a process.

We're scientists, and that just doesn't seem appropriate of our role, or maybe I'm just interpreting it wrong, but we don't check on processes here, in my opinion, and we just do pure science and identifying what's good and bad and what's better and what's not and what's appropriate and what's inappropriate, and so that's all that I had, is just those points.

DR. LYNCH: Okay. Thank you. I think the process, the more formal process, step you have though is recommending an ABC, and so that is part of, you know, a legal framework, and so, in doing so, I think it's an assurance that you've made that our recommendation here is consistent with BSIA.

I don't think it's a -- You know, it shouldn't be a legal evaluation

of did NMFS do this, or did the peer review panel do that, but it's more that we've looked at the package, and we've provided our feedback. We're at a place now where we agree that this is our ABC recommendation, and so, by doing that, it's consistent with BSIA.

CHAIRMAN NANCE: I think, just like when we are reviewing a paper for publication, it is acceptable to the journal, and that's our -- After we've looked at it rigorously, and those types of things, we're passing it on that it's acceptable for publication within the journal, but I would like to have maybe legal make sure that we -- As we go down this path, that we're not called and said we need to be doing something different, because we do this each time, and so I think that's what we need to have happen.

MR. RINDONE: We'll just tell Mara that Pat said it was okay.

CHAIRMAN NANCE: Anyway, Harry and then Dave.

MR. BLANCHET: Thank you, Mr. Chairman, and so we've been talking here about how we address assessments and assessment results, and I wanted to take it down to the data-stream level. A lot of times, we do look at individual data sets, data streams, and this might be part of a SEDAR, or it might be something that is being considered for input into a stock assessment, that is not part of a SEDAR yet, and so I can see a place where we might be able to say this dataset seems appropriate for consideration as part of a -- Just to pick an example, but part of an assessment for goliath grouper.

Someone else at say NOAA Southeast Science Center may have a different perspective than we do, in terms of whether that dataset is appropriate or not, especially once they get into development of that assessment, and so I'm trying to think how we can say something that provides -- What we would say before is it seems appropriate or not, but how does that fit within this framework, I guess is the challenge.

DR. LYNCH: Thank you for the question. The framework won't be able, in itself, to resolve any disputes. We did try to address that in the paper, to a degree, and we couldn't get very far, except to say that we know there is going to be disagreement between say the Science Center and the SSC, or the Regional Office and the SSC, or whomever may be involved, and there will be differences of scientific opinion and differences of opinion in the process.

We didn't get much further than having this POC as having a

fundamental role, because what's key there, certainly when there is conflict, is good communication, and so we need somebody taking the concerns and bringing them to the table, and we should, right? We should be debating the scientific validity of pretty much everything that's used, and so, eventually though, you need to resolve at a decision, and all we had there, recognizing that it's going to happen, and there's not an easy to solve everything, is that we just need a POC who is working consistently and communicating effectively with all the parties.

MR. BLANCHET: It seems to me that one of the lines for your job description for POC should be omnipotent, because trying to understand all that's going on within the SSC and within the Science Center is a huge task just by itself.

CHAIRMAN NANCE: We're going to have Shannon. Go ahead, Shannon.

DR. CALAY: Thank you, Jim, and I am not on the SSC. I am here representing the Southeast Fisheries Science Center, but I did think that it might alleviate some of your concerns for me to tell you what our customary role in this process of certification is, and so our team serves on the IPT committees that draft the regulatory amendments, and we serve with SERO in that process.

Typically, our role, once certification is requested, is just to make sure that the management actions that are described in that regulatory amendment are consistent with the stock assessment management outcomes that were set by the SSC, for example, and so we would make sure that the regulatory amendment achieves rebuilding, or that it eliminates overfishing, and we don't typically go into that process looking at the BSIA of each individual dataset that might be used in a stock assessment.

That is our customary role, is really just to make sure that the management amendment that is put in place and presented to the council is consistent with the stock assessment results and outcomes that the SSC has reviewed.

CHAIRMAN NANCE: Thank you. Carrie, to that point?

EXECUTIVE DIRECTOR SIMMONS: Thank you, Mr. Chair. I guess my thinking is one of the reasons we would put the Southeast framework together, which they have not seen yet, is we would work through some of these details, right, and we would try to lay out that this is our stock assessment process, and this is the type of assessment, and this is the provider, whether it's the Science Center or FWRI, and then we would say, you know, this is the role of the SSC, the role of the agency, that kind of thing.

You would kind of flesh that out further, and I think, once we start working on that and bring it back to you, I think these data streams, like I think you're referring to, Harry, I mean, that was discussed during the preliminary, right, when we had the assessment development team.

The working group made recommendations, right, through the assessment process, and then that ADT said, yes, we agree, or, no, we don't agree, and so the SSC is making recommendations on individual data streams, as a body, or a subgroup, and then that is being reviewed at various levels along the assessment way, and so I think, once we start fleshing that out and bringing it back to you, some of these little details we should talk more about at that time.

CHAIRMAN NANCE: Thank you. Dave, please.

DR. CHAGARIS: One of the things that this SSC does differently from most others is we make motions, and we vote on them, and, oftentimes, when we vote on a BSIA determination, for example the Snapper Count, sometimes it passes by a very thin margin, one or two votes. Does that hold the same weight as if it was a consensus by the group on BSIA, and how do we -- Because, I mean, some of us may not be in agreement of BSIA, and we walk away feeling like, well, now we have to move forward with this decision, even though it was a very slim vote, and so how does that kind of factor into this whole framework?

DR. LYNCH: We never consider sort of the weight of support in where you end up. I mean, just to say that a decision has to be made, and, when you have all the right parties in your room, as laid out in your framework, and all the steps were followed, then whatever results from that gets the same sort of stamp of approval, in terms of BSIA, and so I don't think -- A slim margin, or a wide margin of consensus, it's still, in the end, management based on BSIA. People might have a different opinion, certainly, right, of what that means.

CHAIRMAN NANCE: Well, thank you. I think it's been a very informative discussion, and I appreciate you coming down here. It was good to see you again.

DR. LYNCH: You as well, and thank you, Mr. Chair and SSC members. I appreciate it.

CHAIRMAN NANCE: Now we will go into Item Number VI, I guess, and we'll have Ryan go ahead and take us through the scope of work,

and we have Dr. Calay here to be able to lead us in this discussion.

DISCUSSION: ACCEPTABLE BIOLOGICAL CATCH CONTROL RULE MODIFICATIONS

MR. RINDONE: Thanks, Mr. Chair. We last talked about revising Tier 1 of the ABC Control Rule in May of last year, and, since then, lots of things have happened that have distracted you all's attention, quite efficiently, I would think, from us trying to make some more progress on any revisions to the ABC Control Rule.

We're going to relive that May 2021 presentation, and there's lots of background materials that were posted for you guys to also digest, but the goal of this is to reevaluate Tier 1 of the ABC Control Rule, and the current control rule has been in place since 2011, but many of you, since then, have regularly expressed a desire to revisit certain aspects of it, one of them being the propensity for the buffer between the OFL and the ABC, as determined by the P* approach, generally resulting in buffers that are quite narrow and that may not represent the uncertainty that the Science Center and FWC typically describe as being inherent in the assessment.

You guys will review these presentations and background materials, or you should have reviewed the background materials that have been provided, and I have one more from Dr. Calay that I need to put up, and to focus your efforts on trying to -- Thinking on how to revise Tier 1 of the ABC Control Rule in a manner that you think is scientifically appropriate and does an efficient job of trying to capture the scientific uncertainty that's inherent in the assessment and the projections that are typical of review for the SSC, and make any other recommendations that you think are appropriate. Mr. Chair.

CHAIRMAN NANCE: Thank you, and I think the last time, Shannon, we sat down together was this presentation, and I think that was the last time, but, anyway, it's nice to have you back, and please -- This is being presented so we can have a discussion, and we have six hours, and so we're going to have a robust discussion on this, and so we'll be able to have some breaks on it too, but, anyway, Shannon, we'll go ahead and turn the time over to you for the presentation.

DR. CALAY: Thank you, Chair. I wanted to say how good it is to see you all in-person. It's a big improvement over looking at a screen without any faces on it, and that was a very challenging experience.

I did want to start off by saying that this is essentially a flexible proposal, and the Science Center does have some opinions that we would emphasize, and, in other areas, we are quite flexible, and so I will show you that flexibility, and I also have a spreadsheet that was presented in May that allows you to actually demonstrate some of the decision points, and I am really terrible about using these clickers, and so we'll see how this goes. So far, so good.

For those of you who haven't seen this figure ten or a hundred times before, the roles and responsibilities, as far as the ABC Control Rule, as outlined, is that it is typically the SSC's responsibility to determine the overfishing limit, OFL, which is the catch that is expected when fishing at the maximum fishing mortality threshold, with a 50 percent probability of exceeding the OFL, as determined by the stock assessment.

The ABC is simply the acceptable biological catch, which is reduced from OFL by some amount which corresponds to your understanding of the scientific uncertainty. The annual catch limit is actually the level that triggers the accountability measures, and this is typically considered a council prerogative. If you exceed the catch that is the ACL, usually there is a management action that takes place, for example the imposition of a closure or a size or bag limit, some management action.

The annual catch target is also sometimes used, which is further reduced to account for the management uncertainty. Now, each of these can be set equal to a level above, but cannot exceed it, and so what is an ABC Control Rule?

It's simply an agreed-upon procedure which is adopted within the FMPs for setting the acceptable biological catch for a stock as a function of the scientific uncertainty in the estimate of the overfishing limit and any other appropriate scientific uncertainty. Each council was given essentially the task of establishing an ABC Control Rule, based on the scientific advice from its SSC, and so this SSC met, in roughly, what, 2008, 2009, and 2010, and put in place the control rule that exists today.

The SSC must recommend the ABC to the council. An SSC may recommend an ABC that differs from the result of the control rule, but must explain why, in some justification, and, in many cases, it can be data limited, and it could also involve complex drivers, based on the measured stock biomass, uncertainty, forecast of environmental effects, et cetera, and so it's a flexible rule.

Now, some councils have adopted a single framework across all of

their FMPs, and others have different ABC Control Rules for different fishery management plans that they manage, but most do attempt, to various degrees, to set the ABC below the OFL, in a way that reflects scientific uncertainty.

Now, how they actually do this varies between councils actually a great deal, and so this is just an example that you can look through at your leisure, which is the Western Pacific Fishery Management Council ABC Control Rule, and, essentially, what I'm pointing out is that this control rule happens to have five tiers. Tier 1 is their data-rich stock assessment process, where they do set ABC at some level corresponding to their understanding of the scientific uncertainty, using the calculation that you see there.

When they get down to their Tier 4, which is the data-limited stock assessment, at least in this iteration of their control rule, they just applied a straight fraction, 91 percent of the MSY, and then, much like your control rule, essentially the catch-only tier, the true data-limited, Tier 5, is simply determined as some multiplier of the median catch.

The existing Gulf control rule looks like this, and this is Tier 1, and so it does have a condition for use, and that condition for use is that the assessment provides you an estimate of the MSY reference points and produces a PDF, a probability density function, of the OFL estimate. In the current Gulf control rule, the choice of the P* is actually based on a tiers and dimensions table, and so you are looking at a variety of different factors when you determine the P*, including how the level of the stock assessment and the use of the FMSY proxies -- So you're actually assigning a higher uncertainty to less-complex stock assessments that may rely on an SPR proxy, such as FSPR 30, or F 0.1.

You're also characterizing the uncertainty by looking at whether the uncertainty is fully integrated in the projections, whether we're looking at some sensitivity runs to determine our understanding of the key parameters, or in fact whether we're not looking at key parameter uncertainty at all in the stock assessment process. You also look at the severity of the retrospective pattern and whether or not the stock assessment used environmental covariates that are thought to exist and affect the stock.

After that consideration, your OFL is simply the yield at FMSY, or its proxy, and the ABC is the yield at whatever that P* potential that comes out of your tiers and dimensions table, which usually ranges between 0.3 and 0.5, and it's that P* percentile of the projection of FMSY for stocks that are not overfished, and, for stocks that are overfished, ABC is the yield at F rebuild.

This is your tiers and dimensions table, and I'm sure you're well aware of it, and I had a hand in creating this, and I regret it, and Joe Powers and I are sorry, and so the council, at one time, did set limits on what P* could be, and they determined, at that time, that they were interested in allowing the flexibility to set P* between 0.3 and 0.5, and so, in its lowest configuration, this tiers and dimensions table produces a P* of 0.3, and it produces a P* very close to 0.5 in the best of circumstances.

This is actually kind of some general guidance from the imposition of the ABC control rule years ago, and so it's kind of the NMFS general guidance. It states that an ABC Control Rule should, at some level, reduce fishing mortality as the stock size decreases, and so, especially if a stock is overfished, you would reduce the F to allow the stock to rebuild, for example.

In some cases, it is appropriate to impose a B critical value to reduce the F to zero at some level of depletion, and so this has been done in certain circumstances, and it typically would prevent a stock from reaching a level below which reproductive limitations become severe.

Now, I would call this next bullet point more of a Science Center understanding that has evolved from our experience with the control rules. We believe, at the Southeast Fisheries Science Center, that it is appropriate to divorce the concepts of P* and sigma, and sigma is the scientific uncertainty. Sigma is the width of the PDF that is produced by a stock assessment, and P* is your risk determination that has, in this case, come out of your tiers and dimensions table, and we, at least, believe that the SSC should focus on characterizing the scientific uncertainty, which, in this presentation, I will call sigma.

We also believe that we should impose a tiered system, where, as the data quality and quantity decrease, the sigma should increase. The scientific uncertainty should be larger as the data quality or quantity diminish, and so there ought to be larger buffers between OFL and ABC for the lower tiers, as you move towards data-limited conditions.

In some circumstances, the ABC Control Rules are set up to achieve that, quite systematically, and, in other cases, it's more organic, and it may or may not actually achieve bigger buffers as you move to data-limited conditions.

This is kind of general guidance about the ABC Control Rule, and, in this particular case, it's a schematic that looks a little bit

like your control rule looked when you set the minimum stock size threshold at one minus M times BMSY, and so this is no longer your default, and so, in this particular case, MSST, that minimum stock size threshold, marked in red, is set at a level below BMSY, and that's to prevent triggering a management action when you are simply looking at deviations, for example, in the expected recruitment or deviations in other population parameters.

You will see, in this case, that the fishing mortality that you achieve with your control rule is essentially FMSY, or its proxy, until you get to the level MSST, the minimum stock size threshold. At that level, it declines to essentially zero. Now, in your actual control rule, you're using F rebuild, and so it's not a mathematical calculation. It's actually a determination of the level of F that will allow the stock to rebuild within the timeframe specified, and so this is actually what the default control rule looks like, more or less, and, again, a schematic.

Now you have shifted your MSST to 50 percent of BMSY, in most cases, so that, you know, what happens is, with this control rule, for a stock that is below BMSY, but still above the minimum stock size threshold, your OFL is the yield at fishing at FMSY, or its proxy, and your ABC is simply a small buffer established by your tiers and dimensions table, and you don't actually start to reduce the fishing mortality until you reach a stock size below the MSST, and then you need to actually establish a rebuilding plan, right, and so that's where we're triggering a rebuilding plan, and we're building our ABC on F rebuild.

Now, I am not suggesting that there is a need to change your default determinations of MSST, and that is typically considered a council prerogative, but I will point out that, in the current control rule, you have very small buffers. Even when you're quite close to MSST, you're only applying a very small buffer between OFL and ABC, and that, when you do get to a stock size that's well below MSST, like, for example, the recent assessment of gag grouper, you are in a situation where very drastic management actions are required to rebuild the stock.

Other shapes are possible, and, for example, we could -- These are kind of the two examples, together, of -- Well, this is the current example, where your MFMT is actually the fishing mortality that you derive OFL from, until you get to MSST, and then you apply F rebuild, and there's also possibilities where you would begin to reduce the fishing mortality whenever a stock is below the biomass that supports MSY, and so many shapes are possible.

Some of you have pointed out that the P*, as its labeled in this

figure, is incorrect, or at least not clear, and so, rather than correcting this, I will just explain that, in fact, of course, P* is typically the probability that you're willing to accept of overfishing, and so, in the figure that's shown here, P* is 40 percent, and what is labeled P* is really only intended to be -- That is the buffer between OFL and ABC that corresponds to the P* of 0.4, in this case.

What I wanted to point out here is how you're actually determining OFL and ABC, in many cases, and so, essentially, the OFL is the catch at the MFMT, which is F 30 percent for most of your stocks, and that is the OFL, and you are determining your P* through the tiers and dimensions table, and that's what is setting the buffer between OFL and ABC, and, in most cases, in the Gulf Council, you are looking at values between 0.4 and 0.48.

What I want to point out with this figure though is that, actually, the sigma, the uncertainty specified by this particular example, is actually quite large, and it's considerably wider than what comes out of most of our stock assessments.

The width of the PDF that comes out of most of our stock assessments is a fairly substantial underestimate of the true scientific uncertainty, and that occurs because, for example, many of our stock assessment parameters are fixed. For example, we do not estimate natural mortality, and, in most cases, we do not estimate growth parameters.

Now, if we incorporated the full uncertainty in a stock assessment, and, frankly, the South Atlantic laboratory does incorporate more uncertainty than we typically do in the Gulf, because BAM has different capabilities than SS, but the width that is produced by our typical Gulf assessments corresponds to a CV closer to 0.1, which is extraordinarily narrow, and so the P* isn't really giving you a very big buffer, even if you set it as low as 0.3.

All right, and so the calculation of ABC -- Clay likes to show this figure about how there are known unknowns, but there are also many things that are unknown unknowns, and we simply don't know them until we observe them, and so, in fact, the PDF around OFL is quite large and poorly estimated by stock assessment processes, and so how could we improve that estimate of the width of the PDF, what I am calling sigma?

There are many different ways, of course, and a convenient approach, lacking better information, is to estimate the variance external to the stock assessment process. For example, one could compute comparisons of estimates from multiple past stock

assessments and use that as a proxy for the scientific uncertainty, and that is the approach that is actually described by the Ralston et al. paper that I put into the background materials, and then I will walk through that in a minute, and then I will discuss an update to that process, too.

The Ralston paper, he looked at -- Well, a team of folks looked at seventeen different stocks from the North Pacific Fishery Management Council, and they -- This is an example that shows, on the left-hand side, the past assessments of Pacific whiting, and it shows you that, as they got new information, or changed the fishery stock assessment approaches over time, the results actually varied substantially between one stock assessment and the next, which typically does happen.

They were able to look at across that range of outcomes that were produced and look at the aggregate distribution of all the log deviations from the trends in spawning stock biomass, pooled over those seventeen stocks, and to look at the distribution of that variability, and they determined that, for the North Pacific stocks at that time, the sigma min was about 0.36 for their data-rich stock assessments and considerably wider than that in data-poor situations, and so that's this figure.

I'm used to being able to use a pointer, but what I will show you is that the top line on this figure are the Tier 1, what they consider to be their data-rich stock assessments that produce a sigma min of 0.36, and, if you assume that P* is 50 percent, of course, it doesn't matter how big your sigma is. If you take the 50th percentile, there is no buffer between OFL and ABC, period, but, as you reduce the P* to 0.25, in this case, with a Tier 1 stock assessment and a sigma of 0.36, then you get about a 20 percent buffer between OFL and ABC. In other words, ABC is 80 percent of OFL.

What they thought they would be best to use for data-moderate and data-limited are just multipliers of that data-rich sigma, and so the middle line is data-moderate, with a sigma of 0.72, and the low one would be a data-limited stock assessment, with a sigma of 1.44, and so, obviously, in this case, as you reduce the data availability and the data quality, then you get larger buffers, and, in their most extreme example, with a Tier 3 stock assessment, assuming a P* of 0.25, then ABC is only about 40 percent of the OFL.

Before I get to this slide, which is kind of busy, I will say that there has been an update to this paper that was considered by the North Pacific Fishery Management Council, and I have also asked

Ryan to include that in your briefing materials, and it was Kristin Privitera-Johnson and Punt, and what they did is actually incorporate some of the projection uncertainty into these estimates, and, when you actually incorporate that projection uncertainty, that P* that they recommend goes up to about 0.5 for a data-rich stock assessment, and that is the new kind of sigma min that's been accepted by the Pacific Fishery Management Council.

This is a proposal, and this actually happens to come from the Tier 1 of the Caribbean Fishery Management Council plan. They don't have any Tier 1 stock assessments yet, and they only have data-moderate and data-limited stock assessments, and so this was a strawman that the Science Center produced for the Caribbean, and the nuance about this one is that, if a stock would be overfished in the U.S. Caribbean, they don't need to go through determining F rebuild, and this one mathematically sets a reduced F until it reaches the origin, as I showed you in those examples.

This may be a little bit different than what you choose to do, but the main features of this control rule are kind of highlighted in that salmon coloring, and so, in this case, the control rule for Tier 1 depends on the SSC providing an estimate of the sigma min that corresponds to a data-rich stock assessment.

The Caribbean Council determined that sigma min would be 0.5, and so that's the minimum scientific uncertainty that the Caribbean Council thinks would apply to a data-rich stock assessment. Now, they did specify that, if we had actually determined, through some modeling process, that the sigma min was in fact larger than that, they would use that sigma that comes directly from the stock assessment, but that any value of sigma lower than 0.5 would be replaced by a sigma min of 0.5.

Now you also have a feature, which is complex, because it involves essentially the ABC is now some function, D of X, where D is defined as in two conditions. One is when the biomass is above BMSY, and it allows to employ a scalar, and so I'll get to what is that scalar in a moment, and, in the situation where B is below BMSY, then you use that scalar times some function that depends on your current biomass, the B critical value you've chosen, your biomass at FMSY or its proxy, and, again, the B critical value.

B critical, is that minimum level of depletion at which fishing would not be allowed, and that's the Caribbean Council's decision, and the scalar is a kluge, and I will admit it. The scalar was in case, for some reason, the P* was set below -- Was set at 50 percent by the council, right, because this whole thing falls apart when P* is set at 50 percent, because then, no matter what you do,

there is no buffer between OFL and ABC, and so this was simply a way that, if the council set the P* at 50 percent, the SSC could set the scalar less than one and achieve a buffer. That's what the scalar is. If you don't need to worry about -- If P* is going to be less than 50 percent, you can leave that scalar at one.

I did want to point out that it was at least our advice to the Caribbean Council to focus on sigma min, to focus on the scientific uncertainty, and actually allow the council to determine the level of risk they were willing to take to set P*, as long as it was below 50 percent, and that is in fact what worked in the Caribbean. They set their default P* at 0.4, and I think, in some situations, they are interested in P* as high as 0.45, but the SSC's role is to determine the width of sigma min, the width of the PDF.

All right, and so how does this actually function? I put a spreadsheet together in May, and it is in your background materials, and, if you want to, we can go ahead and walk through some variations of this process, but I think the most important thing that the Science Center wants to achieve is establishing something closer to a true approximation of the scientific uncertainty, sigma, and so what I've shown you here is a control rule that would be the result of a sigma of 0.36, a P* of 0.4, and either determining that F will reduce to the origin at MSST or at BMSY, and so these are kind of the two extremes.

The MSST is essentially what you're familiar with, where we don't reduce F until you get below the minimum stock size threshold, and that's the red line, and so the difference here, between what you do now and kind of what this schematic is in red, is that you see that now there's a buffer of about 10 percent between OFL and ABC, no matter what your biomass is, right, and so, even if your biomass is above BMSY, you're still using a buffer, between OFL and ABC, of about 10 percent, and that buffer is coming from the sigma value of 0.36, which is considerably larger than what is the typical sigma that comes out of our stock assessment process in the Gulf.

Another difference is that that reduction you're seeing between a B of 50 percent of the BMSY and the origin in this case is from that formulation that I showed you on the previous slide, but, in fact, in your control rule, that is simply F rebuild, essentially is what that ramp is, the F rebuild value, and, of course, here, there is B critical applied, where the ABC is set to zero if you get below I think 10 percent of the BMSY, and so these were all intended to be kind of hypotheses about what could be done.

There is some advantage to having a little bit more consistency between the various regional control rules, and there was certainly

an interest in achieving more similarity between the control rules. However, I mean, the councils do tend to go in their own directions, and the Science Center does recognize that it is your prerogative to set the ABC Control Rule.

All right, and so one thing you may remember from our last discussion in May is that we took a look at how three stock assessments that we had done recently performed with your current control rule and then with the new version of the control rule, and I will just summarize briefly, and you can look at this in more detail, if we want to take the time, but, for stocks that are above BMSY, your current control rule is actually a little bit more conservative than what comes out of a sigma of 0.36 for vermilion snapper, and that may be not a robust result across all stock assessments.

For king mackerel, which is actually above the minimum stock size threshold, but below BMSY, they perform relatively similarly, in that you got about the same ABC produced by the two methodologies, but, for a stock that is below MSST, and remember that this presentation was given to you in May of 2021, and so was the demonstration that was produced, and it was not updated with the most recent greater amberjack results, but my point was that, for stocks that are below MSST, below the minimum stock size threshold, the control that I have shown you in this presentation actually was considerably more conservative than the rebuilding plan, which was actually a surprise to the Science Center, when we produced that.

The advantage of doing a control rule is that it -- Of specifying a decreasing F with the control rule is that it would alleviate the need to create a rebuilding plan, but it would require the Science Center to test the ABC Control Rule, to make sure that it was at least as effective as a rebuilding plan. However, you could simply retain your current practice of, when a stock is declared overfishing, then the ABC would be determined from the rebuilding plan of the yield at F rebuild, and so there is no need to change that policy. That policy currently does function.

That's it, and that's what I had to present, and now I'm very happy to go through any elements of the demonstration and spreadsheet that you would deem useful.

CHAIRMAN NANCE: Perfect. Here's what I'm going to do. As soon as we start down this rabbit hole, we'll never stop, and so we're going to take a break, but I don't want you to corner Shannon over here and get all your questions answered. We need to do that as a group, and so don't grab her and try to do that, and so we'll

come back here at 10:45, and we'll start this discussion.

(Whereupon, a brief recess was taken.)

CHAIRMAN NANCE: Okay, and we will now enter into our discussion portion. Sean.

DR. POWERS: Thanks, Shannon. Like I said during the break, I will miss the nostalgia of the colorful table, when we pull it out, but just a couple, and, one, and so you're only talking about Tier 1 here, correct?

DR. CALAY: Yes, Sean, that is correct, and I will say that, in the Caribbean control rule, Tiers 2 and 3 actually are just increasing the sigma min for more data-limited stock assessments, and so, basically, 1, 2, and 3 all are based on this premise in the Caribbean, and the difference is the expanded sigma min, as you reduce the data quality. They also have a Tier 4, which is their catch-only tier.

DR. POWERS: Okay, and so the next question is a little bit -- How much of the -- I like the point you made of divorcing P* with sigma or the PDF spread, because I think our problem is the latter, as you mentioned, and how much of the problem with the narrow PDFs is because, in the stock assessments, we put an artificially low CV on a lot of the data sources, and then we allow a relatively high effective sampling size, and, I mean, I know we still cap it largely at 200, but that's still relatively large, and so, as opposed to a Ralston method or anything, what's the chances that, if we relax those things and use the real CVs, reduce the effective sampling size even smaller, that we could generate broader PDFs naturally from the model, or is this butting up on an SS limitation?

DR. CALAY: There are a number of reasons why we wouldn't necessarily want to estimate the catch with an error that we believe to be true, and one is that we then can run into situations where our projections are based on the model's lack of fit to the observed data, but the ACLs are monitored using the observed data, and so that's kind of difficult to navigate, and it happened with red grouper, for example, and so you're correct that we could certainly expand the PDF that is produced by our SS models, through a number of ways, one of which would be using a truer representation of the scientific uncertainty in our data inputs, but, also, we would have to estimate certain key parameters, like natural mortality and growth parameters, for example, but, in many cases, there is no data for us to reliably estimate those with the data available to us, and so we fix them because they cannot be

estimated, but, by fixing them, we do end up with smaller than expected PDFs.

I will say that, in addition, you need to consider the between-model uncertainty, right, and so there could have been different model implementations that we explored, and there could have been differences between the last several stock assessment models that might be important to explore, like Ralston-style approach, and so, even if we were able to better estimate the scientific uncertainty of any given stock assessment model, there will still be other model ensemble approaches that would have had an even broader estimate of scientific uncertainty.

DR. POWERS: There is no way, right now, to do that, just because they involve different sets of parameters, and there is just no -- I think Katie hit on this in the red snapper conversation, that there is just no way to compare those models, because they have different inputs.

DR. CALAY: That is correct. I mean, if do two different implementations, there is no easy way to compare two different models with two different sets of input data with comparable metrics, right, and what is used in some places, including ICCAT, for example, is an ensemble model approach, where they literally create an uncertainty grid of many different models, and they combine the results into a PDF, and that's what they use to create the stock assessment advice.

Those PDFs are very broad, but, course, that's extremely time-consuming approach as well, and so, really, yes, it can be done, and we can better estimate the width of the sigma min. There are approaches that could be used, and it's really a matter of how this council has evolved through the SEDAR process and what you -- What our common approaches are and the time we have available to use those common approaches.

CHAIRMAN NANCE: Thank you, Sean. Luiz.

DR. BARBIERI: Thank you, Mr. Chairman, and, Shannon, thank you for coming over in-person and for the great presentation, because I think it's good, and it was time to revisit this issue, and having you here and the opportunity to just discuss this in-person is great.

I have my preference, and, if you could put, Jessica, her Slide 18, and so, I mean, I understand, I like the proposal here, and I think that simplifying our ABC Control Rule is needed, and it's a useful process for us to go through, and so just a few comments.

One is I would prefer staying true to us here and focusing on scientific uncertainty, to sort of divorce this process of setting buffers based on stock status, right, like it is on that slide there, and so, of the two proposals, or the two options that you present as possible scenarios, I would prefer sticking with the dX MSST, right, and not really -- Even though, conceptually, I understand, and I accept, that this would be a good policy, I feel that this policy is really up to others, and the council, to make that decision, and so we could present this to the council as a proposal.

If they want to start decreasing fishing mortality in this sort of semi-prescribed way, through the ABC Control Rule, as stock status changes, and that would be relative to BMSY, but, in general, to stay true to that concept of the SSC sticking with just the scientific uncertainty, I would rather go with the MSST approach.

DR. CALAY: The Science Center has considered that, and, obviously, it's not our prerogative to determine the risk that the council is willing to accept, and so I don't think we're troubled by retaining, essentially, if a stock falls below the minimum stock size threshold, then your ABC is determined by the rebuilding plan that you put in place, and essentially saying that, for a stock that is not in an overfished status, then we would apply something like a sigma min that represents our true scientific uncertainty, and even allow the council the prerogative to select P*, as long as, frankly, they don't select 0.5, which then, again, as I said, means no buffer.

CHAIRMAN NANCE: To that point?

DR. BARBIERI: If I may, just a quick follow-up, and so, yes, that's good, and so a couple other questions, and not necessarily for you, and I'm just trying to identify points for us to discuss as we get into this topic, and so, if we go with this approach, which I think would be an improvement, and we use that dX MSST approach, right, we would be applying the Ralston multiplier to the OFL, and then create our yield streams for ABC that way, and I think a question for the committee is, one, how do we want to organize our tiers, right, because this assumes Tiers 1, 2, and 3, that have been predefined, and so that level of sigma that is used for the Ralston multiplier is based on that tier.

I think this is one of our main tasks, would be trying to think about how we organize our tiers, and, to that point, I wonder if we shouldn't take this opportunity to look at what we now consider our Tier 1 assessments, because this, I think, gives us -- This

approach gives us the opportunity to look at differences, and I look at the examples that you have there, and vermilion snapper, king mackerel, and greater amberjack, and the amount of uncertainty in those assessment is expected to be quite large, the difference in uncertainty, right, in those assessments, but they are all, right now, in our Tier 1, and all of them would be subjected to the sigma of 0.36 and the same value of the Ralston multiplier, and basically proportional to their value of OFL, and their buffer would be the same.

I am just thinking that, one, this would be to organizer our tiers and think about how we want to do this, and we want a breakdown within what we now consider our Tier 1 assessments and some other sub-divisions there, right, to account for those differences.

Lastly, as part of that, if you want to create a bigger buffer between OFL and ABC, or differences in ABC that are based on having a true estimate of MSY, where we can estimate the stock-recruitment relationship, versus using a proxy. Right now, those two assessments in our Tier 1 have very similar -- They have miniscule differences, and not knowing -- Not having that knowledge about the recruitment dynamics, to that extent, is a big deal, and it goes into projections, et cetera.

Those are the points that I would identify, my preference in going with the MSST and then our need to perhaps look at how we're going to subdivide our tiers and then using those tiers as a way to account for different values of the Ralston multiplier, if that is appropriate.

DR. CALAY: So just one clarification. The red line that you're looking at on this slide is actually that d of X computed with MSST being that critical -- Not critical value, but incorporated into that calculation, and so, actually, what you're doing -- This is likely to be even more conservative than the rebuilding plan, and so, for an overfished stock, what you're seeing on the board here, it looks like, at least in the case of greater amberjack, it rebuilds significantly faster than a ten-year rebuilding plan, and so we would have to update these graphics for you, if that's what you intend to do, to show that, rather than the calculation that you're seeing on this figure, you're actually going to apply F rebuild, if that is your intention, to calculate ABC for an overfished stock.

DR. BARBIERI: I'm sorry.

CHAIRMAN NANCE: No, you're fine.

DR. BARBIERI: Just real quickly, because I thought that that was prescribed, right, by NS 1, that, when you are in a rebuilding plan, you have to rebuild at F rebuild.

DR. CALAY: You do have to rebuild the stock within a certain timeframe, but, you know, some councils have chosen to use functional control rules that actually concisely lay out the rebuilding plan, and it may be that it achieves the rebuilding faster than a ten-year rebuilding plan would, and, in this case, it does look like this particular shape of the control rule that we put together for the Caribbean Council -- At least in the case of greater amberjack, it suggests that it's more conservative than a ten-year rebuilding plan, and so it actually would achieve rebuilding faster, and so that's why we were saying we could manipulate the equation a little bit, if you chose to, but that would require reevaluation, to make sure it's consistent with Magnuson, or we could simply retain F rebuild for overfished stocks in the ABC Control Rule.

CHAIRMAN NANCE: Thank you. Jim.

DR. TOLAN: Thank you, Mr. Chairman, and I think, in the preceding conversation, that my question has been answered, but I just want to restate it, just to make sure, and I appreciate the fact that the Science Center wants to lean more heavily on the sigma parameter, and it's at least my understanding that we're not talking about formulating a new sigma parameter for each of these stock assessments, but borrowing from the Ralston method and then using those scalars for the different tiers, and am I correct in that?

DR. CALAY: Well, I think that's the most pragmatic thing to do quickly, is to establish a sigma min value, and say, if the Science Center was able to demonstrate that the true scientific uncertainty was larger, than we would use the larger value.

It may be that we have, at some point in the future, a similar Ralston-style applied to Southeast stocks to present to you, and, at that point, we could obtain a discussion about whether the sigma min could be modified, but, lacking that information today, I think we are, in fact, saying you could apply either the Ralston approach, with data-rich, about 0.36, or the updated approach, or Kristin and Andre Punt's paper, that used projections as well and actually said that the sigma min was closer to 0.5 for data-rich stocks.

CHAIRMAN NANCE: That's what they've gone to, isn't it?

DR. CALAY: Yes, in the North Pacific Council.

CHAIRMAN NANCE: Thank you, Jim. Jason.

MR. ADRIANCE: Thank you. What I have also relates to this first conversation and thinking about SS and the uncertainty it incorporates, and so, having spent most of my time, in this most recent SEDAR, in the recreational group, as I understand it, we're now incorporating the annual uncertainty in those recreational landings, and so, as potentially things change in SS, and there are different parts of the model now incorporating more uncertainty, is there a need then to review this sigma min on a regular basis, or look at these meta-analyses, as the model evolves, so that we're maybe not -- So that whole product that comes out of certain parts of it are incorporating uncertainty better than other parts, but is it reducing that overall uncertainty over time?

DR. CALAY: It's a good question, and certainly it would be best practice to be able to review sigma min on some regular basis. I remind you, again, that it's more than just the within-model scientific uncertainty, but also what would be produced by different model configurations that could be possible, and so the likelihood is that, you know, we won't be able to rapidly and frequently examine sigma min using actual Gulf stocks, but we could certainly attempt to look at some frequently-assessed stocks.

We've said this for a number of years, honestly, and the stock assessment workload gets away with us sometimes, but I think it's safe to say that our stock assessments currently are no more certain than the North Pacific stock assessments, which tend to be considerably simpler in nature, and probably have considerably more reliable inputs, and so I would say a sigma min of 0.36, or 0.5, is certainly an improvement of what we're doing right now, which is closer to a sigma of 0.1.

The stock assessment outputs are similar to a sigma of 0.1, which is clearly an underrepresentation, and so I -- To summarize, I would say that 0.36 and 0.5 is certainly better, and we would recommend that that be evaluated, at some point, but we don't have the data in front of us to look at that.

CHAIRMAN NANCE: Thank you, Shannon. Doug, please, Doug Gregory.

MR. GREGORY: Thank you, Mr. Chair, and thank you, Shannon, for the presentation and what you produced last year, and it was good to review it all again. I was originally confused by these graphs that have a line diagonally going down to the X-axis, even after

MSST has been reached, but, in your presentation, I got the impression that that's just the indication that a rebuilding plan needs to be done.

I certainly wouldn't want to implement a procedure to follow such a trend without evaluation, because, to me, determining a rebuilding plan is crucial, and what I wanted to do is -- This is important, because, now that a lot of our stocks have MSST of 0.5, that's the Magnuson definition of overfished, and that's not the scientific definition, historically. Historically, the scientific definition is fishing at a level beyond BMSY.

I much applaud the idea of reducing ABC in the area between the biomass area between MSST and BMSY, even though the graph itself is not really based on any measure of uncertainty, and it's more of an ABC Control Rule to reduce the risk to the population, and I think we need to remind ourselves of this, because we're falling into a mindset that, oh, as long as it's not overfished, it's okay, but, historically, that's not been the case, in the literature.

My question is, with these graphs, would it make more sense if the diagonal lines just stopped at 0.5, because that region between zero and 0.5 is the rebuilding region, and so I really didn't understand why this orange line goes down line it does. To me, the orange line is -- We could call it a base sigma, the base ABC, from OFL, but the blue line is the result of taking into account that, if you're fishing below BMSY, you probably need to be reducing fishing mortality greater than just from the standard sigma.

Now, I'm not suggesting that we apply multiple sigma, but I am suggesting that we maybe look at different trajectories for this, and what are your thoughts about that? I have another idea on something, but I can bring that up later.

DR. CALAY: So, in the spreadsheet that I showed in May, there is an example that will allow you to look at some of those flexibilities that you mentioned, if you would like to explore those. You did mention that 50 percent of BMSY is the overfishing definition of out Magnuson, and that's not entirely correct. I mean, that's the minimum level you can set it at, is my understanding.

MR. GREGORY: Right.

DR. CALAY: Yes, exactly, and so, basically, what we have determined to do here is not -- You know, we basically continue to operate our projections at -- Project at constant FMSY and take

about the 41st percentile of that and call it ABC. Because our sigma is very narrow out of Gulf stock assessments, that's often producing a buffer of less than 5 percent, and the SSC has done some explorations of that, at various times, and chosen different alternatives that produce a larger buffer, and so it's been recognized, for quite some time, that the stock assessment buffers often are too narrow.

I think it is your prerogative, as an SSC, to determine whether you want to recommend to the council that they reduce F for stocks that are below BMSY, basically more radically than just what is produced from employing the sigma min, and I have a spreadsheet which we can explore those types of options.

MR. GREGORY: If I may, Jessica, could you put up my slide? I modified your slide, in a couple of different ways. The one I stopped at -- I stopped at BMSY, I mean at MSST, and, to me, the top line, at one, represents OFL, and the gray line, at 0.9, represents the sigma, 0.36 at a P* of 0.4, until you get to BMSY, and, at levels below BMSY, what I was doing, to try to keep things simple, is I simply reduced the ABC on a one-to-one mapping with the percent of biomass at BMSY.

In other words, if the biomass, current biomass, was 80 percent of BMSY, the ABC would go down to 80 percent of OFL, and so you'll see that the gray line stops at 0.5 MSST, and 0.5 ABC is one-half of OFL, because I could think of this -- Like Luiz was saying, I could think of OFL like this, but not MSST, going down to zero, and the other thing that I thought, to try to simplify this, is to do this at -- To have no critical value, because we shouldn't be getting down to that level.

Once you get to 0.5, you have a rebuilding plan, and so we really shouldn't be having to deal with a critical level, and the other thing that I did with this is, unlike with your spreadsheet, I did not apply sigma to those values that are less than 0.9, and they're straight one-to-one mapping with the ratio of B to BMSY, and so this is my concept of what would work.

The only comment that I would have is that we would be adopting a level of uncertainty, in general, but then, when we're below BMSY, we have a prescribed approach that really isn't based on uncertainty. In my mind, it's based more on potential risk to the population and a desire not to fall below MSST.

One of the concerns that I had about B critical is -- You mentioned earlier gag, and gag now sits at 0.08, and so, if we had a B critical at 10 percent, gag would go to zero, and that's what we

tried to avoid in our previous meeting, where we changed Fmax to FMSY, and so that would be counterproductive, and gag is especially interesting, and we probably shouldn't just take the assessment just at face value.

A lot of things have changed with gag. We went from combined sexes to -- From a single-sex to combined-sexes, and we went from Fmax to F 30 percent, and those changed the results of the assessment as much as anything else in the data, and so I think we need to be careful with establishing a B critical at this point, and so this is my concept of how this would all work.

Again, if we have an MSST, and, below MSST, we develop a rebuilding plan, and we get back to BMSY or above, and we apply the sigma and quit trying to estimate uncertainty from each assessment. Thank you.

CHAIRMAN NANCE: Thank you, Doug. Trevor.

MR. MONCRIEF: Thank you. Doug did a fair amount of homework on this, for sure. My question is a little bit more, I guess, call it trying to understand it from a little bit higher level, and so we're having a lot of discussions on sigma and how sigma shifts, and, when I was first looking at it, I pictured some sort of negative feedback, where, if you increase the uncertainty around the estimate, then it leads you to a more conservative route, and is that correct?

DR. CALAY: Yes, that is exactly correct. Basically, you would expect the width of that PDF to get larger and larger as your data became more uncertain, and then, even if you stay with a P* say of 0.4, because your sigma is getting wider, the buffer would increase as the data become more limited.

MR. MONCRIEF: Okay.

DR. CALAY: But you would do that by having tiers that expand the sigma as the data become more limited, and so Tier 1 might be a sigma of 0.36, and your data-limited tier might be a sigma of one, for example, or 0.72.

MR. MONCRIEF: Okay, and that's kind of where Luiz was getting, where like maybe not everything is a Tier 1 at this point, the way we considered it. The other one was on the Ralston method, where you're calculating logscale deviations for mean biomass, and, when I look at that stuff, you know, my first reaction is to go to the shifts we had in assessments over the last four years, with the introduction of FES and how that plays a role in the outputs of

assessments, and how would that play into this kind of method, where you have essentially biomass potentially increasing on the same scale as removals, with the changes in shifts and surveys?

DR. CALAY: There is a slide that shows the Ralston approach, and let me see which one it is. It's Slide 15. If you look on the left, that's Pacific whiting, but you can see that their understanding of the trajectory of the spawning stock biomass has changed dramatically over time, and ours has too, as we've incorporated FES landings, and it will again, as we move towards the state survey landings, and so ours may look very much like that, where new understanding, new data, new scientific approaches, changes the way the stock dynamics appear over subsequent assessments.

I think that Pacific whiting example is probably not unlike some of our Gulf stock assessments, if we were to look at every stock assessment conducted over the history of that species, and so I think we're in the ballpark, by using the Ralston approach. I mean, clearly, we have not done this work to look at our Gulf assessments, but I imagine we would see much the same sorts of patterns arise.

CHAIRMAN NANCE: Thank you, Trevor. Will.

DR. PATTERSON: Thanks, Mr. Chair. This is a good slide to kind of start talking about an idea that I have, and Shannon just mentioned that, if we look back in time in Gulf assessments, that we might see similar patterns as Ralston et al. produced here for Pacific whiting, but this was a retrospective analysis focused on modeling error and not changes in data inputs.

I think, fundamentally, what they looked at and what we're dealing with are separate issues. They did a meta-analysis to try to produce a measure of uncertainty, of sigma, across assessments, based on modeling error, and, in their paper, they talk about this is only one form of uncertainty that exists among their assessments, and so, if we're going to take and say, well, we mostly produce P*s of around 0.4, and so 0.4 will be our P* value, and we have a sigma of 0.36, which we have borrowed from Ralston, we wouldn't actually be taking the Ralston approach.

We would be taking the Ralston estimate, or result, and applying it to different stocks with different live histories in a different region, and we've been talking about this for a decade, and I understand, you know, that there is huge, tremendous workload requirements and requests for the Southeast Fisheries Science Center, and so I totally understand that this hasn't been a top

priority, but I just think that, if we're going to say that we're taking the Ralston approach, then we need to take the Ralston approach and not just borrow the Ralston result.

On the same hand, if we look at the Privitera-Johnson and Punt paper from 2020, and say -- You know, they make a pretty solid argument that projection-based analysis is a better way to approach this problem, and then we should do that projection-based analysis for Gulf stocks, to come up with the estimate of sigma on our OFL values, to then use that in whatever rule we come up with.

I don't think it's appropriate just to take 0.5 and say this is where they ended up, based on groundfish and a couple of pelagic stocks from the west coast, and then say, okay, well, we think, if we did the analysis here, that it should come in about the same, because we're always amazed that, when we do the assessments, that the sigma values that are produced -- The general consensus is they don't fully reflect the full scientific uncertainty that we have in the assessment.

The other thing is that let's say that everybody thinks what I just said -- That those are dumb ideas, and it's too complicated, and why mess with all that, and those ideas just don't apply here, and, if we take a P* of 0.4, and a sigma of 0.36, and that's our Tier 1 example, then we're basically just choosing to reduce ABC from OFL by about 9 percent, and so, for every assessment that we do that's a Tier 1, and we use that approach, we're reducing ABC from OFL of 0.9 percent.

We can call it sigma, or sigma min, or couch it in these percentages and PDF information, all of that, but we're basically picking what our percent reduction is going to be from OFL to ABC, and so why not just be upfront and create a table that says these are the percent reductions?

I think that approach is fairly similar to the Restrepo et al. approach from 1998, except, instead of reducing the yield, OFL from the yield, ABC, in their approach, they take a percentage as a target, and so the percentage of F, and so you have FMSY, and so, in our case, that would be the MFMT, and they reduce it to FOY, by 25 percent, and so FOY is 75 percent of FMSY, and so, in our case, FOY would be F ABC, and FMSY would be F MFMT, or the fishing mortality rate that produces MSY.

By doing the reduction on the fishing mortality side, and I know that's counter to the reauthorized Magnuson Act versus the Sustainable Fisheries Act, but, in doing that, your reduction, in absolute terms, from OFL to ABC shrinks as the stock biomass

improves, and so especially once you get above BMSY, and then there's practically no reduction, like 2 or 3 percent, from the yield at FMSY versus FOY, or, in this case, MFMT versus F ABC.

We don't produce an F ABC, obviously, currently, but that would be the analogy, and so, anyway, I think we have to think about this and what's actually happening in practical terms, as a percentage reduction in yield, and the reason I think this is problematic is because the issue that we have in assessments, where we have this driving a stock back in our projections to lower values, because of the dynamics when you get above BMSY, or above MSST even, and that's going to be magnified, I think, by taking this approach, versus scaling this on the F side, but, in practical terms, I think this really just boils down to a reduction, percentage reduction, from OFL to ABC.

CHAIRMAN NANCE: Thank you, Will. Any other general comments? Luiz, please.

DR. BARBIERI: Will, thank you for that. That was interesting and helpful. If I understand your proposal correctly, I mean, basically, we would be developing an ABC control rule to set, right, always -- We would always set, for what we consider Tier 1 assessments, by the ABC equal at the yield at FOY? That was a question.

DR. PATTERSON: Can you say that again?

DR. BARBIERI: Maybe I didn't understand what you were saying correctly, right, but I thought that he was talking about applying the Ralston approach.

CHAIRMAN NANCE: I think Will's point is that it's not the Ralston approach, but it's the Ralston number, the value, that was created from their analysis.

DR. BARBIERI: No, that part I understand, but I'm trying to understand what he is proposing, because I think that it would kind of set the tone of our conversation with the council in proposing this, and can you clarify that, Will, please?

DR. PATTERSON: Yes, and I'm sorry. I would have a moment ago, but I thought you were actually talking to Shannon, and I guess the dynamics of in the room versus not in the room and striking in here, but I'm not actually proposing anything. I have made the proposal, in the past, that I think we should take the Restrepo et al. approach. However, that's never gained any traction, and I am not trying to hijack the discussion today.

I understand that people aren't -- You know, it's a departure from what we've been thinking about and how it's been done in other regions, counter to the reauthorized Magnuson, and I just used that analogy of a reduction in F, which I think is superior to a reduction in yield.

To sort of drive home the point that we're really talking about, the P* of 0.4, and a sigma of 0.36, that's a fixed-value reduction of about 9 percent from OFL to ABC, and so, instead of calling it sigma, or sigma min, or what have you, we should just say we're going to reduce ABC from OFL by 9 percent, because that's what we're doing, or would be doing, under this scenario.

CHAIRMAN NANCE: Luiz, to that point?

DR. BARBIERI: To that point, Will, I don't think that your point is that you are hijacking the conversation, and I think that you made some good points, that you have made in the past, and I think all of those are important to this discussion, and I really think they are. I think it's a perspective that is important for the SSC to think about and consider, and so I was just trying to understand if what you had proposed, the Restrepo et al. approach, has been a recommendation that we would consider in revising our current ABC Control Rule, to start sort of developing some way forward. We say, okay, we are revising our ABC Control Rule, or considering options to revise our ABC Control Rule, and, if you are putting that on the table as a proposal going forward.

Then, quickly, just to the other point about the fixed amount, I don't disagree with you one bit, and, I mean, I think it is a fixed amount, right, and I think, in this case, all we need to do is be explicit about what we are doing, right, so people understand that it's not as really quantitative as we may pretend it to be at times, that this is a little bit prescriptive, in a way, of setting up these different levels of fixed buffers associated with different -- What we perceive as different levels of uncertainty within different assessments.

I think that, as long as we recognize that that's what we are doing, all the other things, I think, would be easier for folks to understand, and then we go from there.

CHAIRMAN NANCE: Thank you. Any others? Shannon, yes.

DR. CALAY: Is it possible to show my screen?

CHAIRMAN NANCE: I don't see any hands. Let's go ahead and -- For

that point, let's go ahead and put Shannon's screen up, and then I will have Doug's comment.

DR. CALAY: I just wanted to point out that Will is quite correct, of course, and that the Ralston equation does produce fixed buffers, depending on the P* and the standard deviation, and it's also in the table that I presented in May, but, basically, at the standard deviation of 0.36 -- For example, at a P* of 0.4, that's 91 percent, and so, essentially, you're taking about a 9 percent reduction, as Will said, between OFL and ABC.

Then, as you increase the standard deviation to 0.54, we have a larger buffer, et cetera, et cetera, and so Will is exactly correct that this could be simplified, and we could just say, for stocks that are not overfished, we apply straight fraction of the OFL, and that's ABC, and then, if the stocks are declared overfished, we apply the rebuilding plan, F rebuild.

CHAIRMAN NANCE: Thank you. Doug.

MR. GREGORY: Thank you, and thank you for that, Shannon. Again, I prefer the declining trajectory when you go between MSST and BMSY, rather than having ABC be a fixed percentage, regardless of the status of the population between one-half of BMSY to one BMSY. To me, that's a very risky approach, and I like the graphs that were presented, because this fixed ratio only applies after, or above, BMSY.

Now, I did notice, in the spreadsheet, the pre-decisional spreadsheets, that, in addition to the decline from the level of ABC equals 0.91 down to zero, or B critical, you applied, or the Center applied, the Ralston reduction to even those reduced numbers, which I didn't do in my modified one, because, again, I was trying to keep it simple and straightforward, and we're recommending an ABC below 0.9, or around 0.8, 0.7, 0.6, and we don't need a 10 percent reduction on that, because it's already a dramatic reduction.

The other thing that is kind of getting my attention now is we've heard a lot about narrow buffers, and we've heard that over the years, but we've never quantified what a narrow buffer is, and, at this point, I think we need to be very careful that we don't go forward with such a subjective idea driving this train, and so I would request that the IPT, which is made up of Regional Office, Center, and council staff, that the IPT try to quantify what our current buffers are, and does it range between two to ten, or is an average of five, and what are our current buffers in our Gulf stock assessments?

Then how do those buffers compare to other councils? This could be quite a bit of work, and I realize that, but we can't go forward just complaining about something being narrow, because there's no definition, and that's very subjective, and that's not very scientific, and we need to try to quantify what "narrow" is, because it could be three or four years from now, or five years from now, and somebody will go, this 9 percent buffer is too narrow, and it's not good enough, and so we've got to do this all over again, but it would be good to compare this to other councils and what percentage buffers they might have relative to us, and it may come out that ours are too narrow.

It may come out that ours are like everybody else's, but we just need to get away from the subjective categorization and indictment, and that's my main concern. This is an indictment of our process, that it's not working, it's failed, it's too narrow, but that's not quantifiable, and so it's a slippery slope. Thank you very much.

CHAIRMAN NANCE: Thank you, Doug. Ryan.

MR. RINDONE: Thank you, Mr. Chair. Doug, Tom and I were actually talking about this exact thing at the break, and something that we were talking about was -- That the IPTs could do would be to demonstrate the relationship between the buffer between the OFL and the ABC against the annual variation in landings for a particular stock.

Some stocks, at least for some fleets, don't have much variation, and some can have some pretty wild swings, but, as a wet-napkin demonstration, if the buffer for a particular stock is -- We'll pull red snapper's, that is currently on the books, and I think it's 2.51 percent, or 2.53 percent, between the OFL and the ABC, but the annual landings variations, commercial and recreational combined, for red snapper are say 10 to 15 percent, across the last ten years or so, and then, under that circumstance, qualitatively anyway, which I recognize is not quite what you're looking for, and you wanted something more precise, but, qualitatively anyway, that would demonstrate that there is obviously some variation going on in there that could definitely swing landings above the ABC, and perhaps above the OFL, depending on the circumstance, but that would at least qualitatively demonstrate the difference between the OFL and the ABC against the variations in landings for a recent time period, say five or ten years or something like that.

CHAIRMAN NANCE: Luiz.

DR. BARBIERI: But wouldn't that be management uncertainty that you're measuring, right, and so it's whatever the level -- The ACL that was set based on that ABC and the difference after that implementation, and so the actual landings will vary.

MR. RINDONE: It's kind of both, depending on what you consider to be the reason for how the landings are performing, and so, in this case of a stock where it doesn't appear as if, over your reference period, and let's say it's the last ten years, you are observing much variation at all, in terms of most fish fleets are catching all of their fish, and let's say red snapper, versus one where it's been quite depressed, and it's not necessarily -- Or at least not entirely a management bias that is causing that, for say gag and its vulnerability to red tide, and just generally some lackluster recruitment.

Now, you could also argue that part of that recruitment issue is due to exploitation of larger individuals, perhaps like during the summer months, when the only place to find that cool water to catch those fish is in deeper water, which carries other discard mortality and things like that, but, in and of itself, there are -- I think there is the potential for capturing some of the scientific uncertainty, if there's an unknown, or a perhaps not entirely quantified, degree of uncertainty, or influence, that's affecting the amount of biomass that's present, like episodic mortality or other measures.

Maybe it's something that ultimately could be used to inform both sides of that coin, the scientific uncertainty, to the degree to which the known unknown is at least recognized, and then management uncertainty as well.

CHAIRMAN NANCE: Thank you. Trevor.

MR. MONCRIEF: I am really enjoying the conversation so far, and I'm really starting to grasp this more and more as we go through it, and I agree with Will, I think, with the fact that, if what we're doing, when we're above one, is essentially fixed process, then let's just call it a fixed process, and that's what it is. I think that simplifies it and makes everyone understand the rules before the process is laid out.

The other thing that I was going to bring up, and I was just kind of thinking through my comment earlier and the response, and kind of gauging this Ralston approach and kind of what Will said. If we're going to do it, we might need to look into it and actually do it for one of the stocks that we have, and I think it would be,

you know, somewhat worthwhile, because I think, in the end, if you look at the terminal years, we're going to have a lot higher --

There's going to be a lot more differences in the terminal year estimates on our assessments compared to what we're seeing with the one that's displayed, because of what was mentioned earlier, and so not only do we have the uncertainty in the beginning, or the differences in the beginning, of the time series, with historical landings influencing the biomass estimates, but we're also going to have the endpoint being different as well, because they're scaled up so high. I think that's going to have to be given a little bit of thought, if that one specifically applies directly to everything we're dealing with on our end, and so that's all. Thanks.

CHAIRMAN NANCE: Thank you, Trevor. Will.

DR. PATTERSON: Thanks, Mr. Chair. This has been a persistent issue, obviously, for the past, you know, decade plus that we've struggled with wrapping our minds around this idea of uncertainty, which is really bias, plus imprecision, in the assessment models from the Gulf and how to accurately reflect that in the reduction of OFL to ABC based on scientific uncertainty, and I understand that, you know, it's on the agenda now, and we've dedicated a considerable block of time here to try to get something pushed forward, to at least have the discussion between the SSC and the council about coming up with an alternative approach to the current ABC Control Rule, and so I totally get that.

It seems to me that it would be money well spent to -- Whether it's done by SERO or the Southeast Fisheries Science Center or the council, or a combination of the three, to push some funds out through SEMIS or CES or Gulf -- I forget what the institute is in Mississippi, and I'm sorry, but I'm drawing a blank, but the Northern Gulf, NGI, and allow folks to perhaps compete for funding, and to fund a post-doc, and it would be great if it was a collaborative effort among a wide swath of academics and agency scientists in the region, or outside the region, and really dig into this issue to try to do the simulation analysis to examine implications of the Ralston approach to estimate the sigma directly from Gulf assessments, you know attempt to the Privitera-Johnson and Punt approach, which is going to be problematic for some Gulf stocks, red snapper in particular, because we don't have a spawner-recruit function that's well estimated.

All the issues that we run into doing projections and fixing recruitment to the last however many years, all of those types of stocks are going to be problematic for the Privitera-Johnson

approach, and then, also, to look at the Restrepo et al. approach, and do a series of simulations, but, if you use the assessment models as the operational model in those, now you have all the selectivities and retention and all of the dynamics of the fishery built into that and not just basically a life history model.

It should be a more robust analysis of the implications of these various approaches, and, again, I understand the impetus for this, and the desire to move forward as soon as possible, but we've been in that same position for at least the past five or six years, and I think that would be a way to kind of get us past some of this indecision, and I think different members of the SSC have different reasons for indecision, or not strongly supporting one approach over the other, but, if we had more information, then I think that could inform what we advocate for to move forward on.

CHAIRMAN NANCE: Thank you, Will. Jim.

DR. TOLAN: Thank you, Mr. Chairman, and this is a little bit opposite of what Will just said, but I think Trevor brings up a really good point, and, if we're going to have just a straight reduction, as some percentage based on the sigma value, the P* value, then let's state it right upfront.

We can still couch that, in my mind, in the BSIA argument that we had the earlier presentation on, and it gets us to the point of our charge, which is to come up with that ABC number, and it may be just a flat reduction, based on those two parameters, but it still fits in what we're supposed to be doing, and so I think it's a great idea to say, hey, this is what it's going to be.

CHAIRMAN NANCE: Thank you, Jim. Doug.

MR. GREGORY: At the risk of repeating what Trevor said, I did want to say one last thing about narrow buffers, and I think it also applies to the suggested approach that Will was just making with F percentages, and there's a difference between the short-term effect and the long-term effect, and that needs to be evaluated.

With respect to so-called narrow buffers, it may be narrow, but a 5 percent buffer, over a ten-year period, has a cumulative effect that's pretty dramatic, and we've seen that with red snapper rebuilding, how it has rebuilt faster than the actual original plan, to an extent, and the same thing with applying F. Short-term Fs may have a different effect than equilibrium Fs, and so we can keep that in mind, but, you know, there's short-term effects and long-term effects. Thank you very much.

CHAIRMAN NANCE: Thank you, Doug. Luiz.

DR. BARBIERI: Thank you, Mr. Chairman. Just a couple of points for discussion, because we are kind of discussing some of these issues and going back and forth, and so, Will, to your comment about using the Restrepo et al. approach and that being a more explicit application of a constant reduction across-the-board to all stocks, I mean, that is one approach, and I think that should be on the table as a possibility, right, so that perhaps we put a pin on as one of the options that we would consider, and, basically, that would, in many cases, and not in all cases now, but, in many cases, it would be equivalent to setting ABC equal to OY, which, as Will explained, would have multiple benefits over time, but I see this as an option.

Another option, perhaps, would be if we go with the Ralston approach, right, and use it as the Center recommended, or proposed, as the Ralston approach, and we are also explicitly applying constant reductions that we know, because the multiplier is known, and it's explicit there in those tables, but what we are doing there, in my interpretation, is recognizing that we cannot really quantify the uncertainty appropriately that is going into these assessments, and there is too many sources of uncertainty that are not accounted for and too many parameters that are just fixed and input into the assessment, and some are very important ones that have -- Like M, natural mortality, that have a very significant impact on determining the productivity of the stock, and we just input that into the assessment as a fixed parameter, usually.

All of those things we are recognizing and using -- We are accounting for them, but using the Ralston multiplier as basically bins of uncertainty that we are setting up, and it's not very different than what we did in our previous control rule, which had some criteria, non-quantitative criteria, just attributes that we read on that table, and we made -- You know, our brains processed all of that simultaneously, and we made a determination of whether we figured that retrospective pattern was strong or not strong, whether we could account for more or less uncertainty into the assessment process or not, or carry that forward into projections or not, and so we made all those determinations that are non-quantitative, and we made judgment calls, right, expert-opinion-based choices there, that then led us to that value of P*.

This would be kind of like the same, if we set different tiers, or different layers, I guess, within our Tier 1 assessments, that we would put different assessments into those different layers and use different layers of multipliers that, yes, would be fixed,

right, and, yes, they are based on assessments that come from the other side of the country, and completely different stocks, but, when we look at the values of sigma there, right, knowing what we know, by working with a whole lot of assessments over time, those values are reasonable, and they are what, basically, we would expect to see for values of sigma, right, and we are making a judgment call on whether we use one sigma or two sigma or three sigma, based on the tiers, or levels, within our Tier 1, and so something like greater amberjack will not have the same buffer, in that assessment, that we would have with vermilion snapper, for example, or some other assessment that, by looking at all the assessment inputs, and all the model performance and diagnostics, we know that we are dealing with different levels of uncertainty.

Then, of course, we know that, between stocks that are more heavily fished by the commercial sector, versus the recreational sector, we can account for those uncertainties very differently, right, and the amount of discards, et cetera, et cetera, all the factors that matter into that evaluation, and so I'm just thinking that, based on Will's points, which I think are well taken, the Restrepo et al. approach could be one option, and another option would be to go with the Center's approach.

I would recommend not using stock status. I mean, that's the point that I disagree with Doug. I mean, I see his point, and I understand it, but I feel that, when we start using stock status, to develop this as criteria for the size of that buffer, we put ourselves, and we put the council, in an awkward situation that we may not be able to explain to folks how this is directly proportional to our perception of just scientific uncertainty, which is our charge here, right, and so those are my points there.

CHAIRMAN NANCE: Thank you. You know, what I'm looking at is we do have -- When we say the Ralston approach, and if we want to see that for Gulf species, then that's a recommendation we can make. In the meantime, we need to do something. I haven't heard anybody say just keep what we've got, and so we need to do something in the meantime, and so that's the discussion that I think we're having, is what do we need to be doing in order to accomplish this.

DR. BARBIERI: I forgot to say something. To Will's point about the simulation, the MSE that could be done, I think that's a very good recommendation, and I think it's something that the Center can pursue, but, you know, having heard, I mean just yesterday at the SEDAR Steering Committee, how the Center is facing situations, in terms of funding, for all the different programs, and the tasks at hand that the Center is facing, I don't know when this would be achieved, and so I would put this as a recommendation going into

the future, that the MSE be conducted, or some other simulation exercise, but that, in the meantime, until that is ready to provide information, that we would go with application with the Ralston approach, as proposed by the Center, and so that would be the in between there.

CHAIRMAN NANCE: Thank you, Luiz. Doug.

MR. GREGORY: Thank you, Mr. Chair. I understand what Luiz is saying about stock status, and in my mind, as long as we had MSST as one minus M times BMSY, we were kind of following the traditional historical definition of "overfished", of identifying an overfished stock, and the way that Restrepo et al. presented it was like, okay, at MSY, we've got environmental differences, and we've got changes from year to year, and we can expect the population to fluctuate around the amount related to what natural mortality is.

Now that we've got MSST, at the level of one-half of BMSY, which again, historically, has been considered a very, very dangerous level, and there was a lot of documentation, in the 1980s and 1990s and 1970s, about, when you're fishing below BMSY, you're at risk of collapse, and so, when we have a population that's between one-half of BMSY and BMSY, I think stock status is important, and I think what it indicates is a different factor for us to consider.

It's not uncertainty in the sense of what the estimate of OFL and ABC is, but it is a concern of the status of the stock, and our goal is to maintain the stock so that it produces MSY on a continuing basis, and is capable of producing MSY on a continuing basis, and it's not the risk that the council is supposed to identify for us to set ABC, and so there's three factors here now, where, previously, we only had two factors. We had the uncertainty and the risk that the council is supposed to set. Now we've got stock status, which I think is a factor that needs to be considered, and that's what the Southeast Fisheries Center proposal does, graphically. Thank you.

CHAIRMAN NANCE: Thank you, Doug. We'll have Harry, and then we're going to have Jim, and then we're going to -- Then we'll break. Okay. So, Harry, you'll be the last one before lunch.

MR. BLANCHET: I had so much to say, and I'm just going to make it much, much shorter then.

CHAIRMAN NANCE: Keep going, Harry.

MR. BLANCHET: A few points, and, first off, I think, if any of

this goes to the -- I think one of the issues, to Doug's point about penalties for having a reduced stock size, it's something that we have not necessarily done a good job of communicating to the council the benefits, in terms of increased harvest for having a higher stock size.

When we go to the council, typically what we're going to say is we're going to say this is the results of the assessment, and we have a 50 percent chance of overharvest at one million pounds of fish, and we're setting ABC at 995,000 pounds of fish, to account for uncertainty, but we never say that, under the conditions of the current assessment, if your stock were at BMSY, then, fishing at the same rate, your allowable harvest would be 1.3 million pounds of fish, so that there is some tangible, measurable incentive for the council to move toward more abundant stocks that allow for higher harvest.

When we talk about it, in terms of rates, the rate is flat, but it's not a true -- It's not a true flatness, in terms of the harvest, and it's only in terms of the rates, and so I think that maybe a better job of communicating with what the benefits of having an increased biomass in the water may have -- May do a better job of getting that across, and maybe I'm being too simplistic about that.

The other point, and I guess this kind of goes toward Will's point, of basically just setting a flat 9 percent reduction for Tier 1, if we look at our existing control rule -- If we look at the P*s that we have used in the past, it has typically ranged between about 0.35 and about 0.43, and a few were outside of that range, but that's typically the range we rattle around in.

If we use an approach like what we're talking about now, rather than it being at 9 percent, we would be talking about somewhere between about a 6 percent and about a 13 percent reduction, if we continue to use something that's similar to our current selection table for picking a P*, and so not necessarily a 9 percent reduction, and so that was just that, and I'm ready for lunch.

CHAIRMAN NANCE: Thank you, Harry. We'll go ahead and break for lunch now, and we'll reconvene at 1:00 p.m. Eastern Daylight Time.

(Whereupon, the meeting recessed for lunch on May 10, 2022.)

- - -

May 10, 2022

TUESDAY AFTERNOON SESSION

- - -

The Meeting of the Gulf of Mexico Fishery Management Council Standing and Special Reef Fish, Special Socioeconomic & Special Shrimp Scientific and Statistical Committees reconvened on Tuesday afternoon, May 10, 2022, and was called to order by Chairman Jim Nance.

CHAIRMAN NANCE: Okay. We'll go ahead and reconvene. Anyway, let me go ahead and open the floor up, if anyone, over lunch, came up with any ideas or discussion points or questions. That's both webinar and here in the office. Luiz.

DR. BARBIERI: Thank you, Mr. Chairman, and just a quick question. Where are we trying to get to today, or at this meeting? I mean, are we seeing this as a little bit of a longer process that we can sort of extend into perhaps multiple meetings?

CHAIRMAN NANCE: We have our next SSC meeting -- This is on the agenda also, and now the length of that time, Ryan and I left it open, because we didn't know how far we would get in this meeting. This does not have to end today, and it can end today, if we come to some miraculous decision to move forward, or we can set up things that we want to accomplish between meetings, where we can then come back and discuss those, and so this is a pivotal moment in fact that we can --

We set up six hours for discussion, where we can come to agreement on things, and we can have ideas to move forward with and be able to discuss next time, and so we don't have to end today, but we need to come with some mechanism of how we want to start to move forward with this, so that we're not, at every meeting, we're spending a little time on it, and, twenty years from now, we're saying, man, I wish we would have come to agreement, and so we need to move forward on things, but we don't necessarily have to make any solid decisions in this meeting. Luiz.

DR. BARBIERI: Thank you, and so, I mean, I wonder if it would be -- We've done this in the past, right, and if it would be wise for us to try and ask for volunteers for a smaller subset, right, of the SSC that could try and capture some of the ideas that we discussed today, right, and prepare this as a number of options and perhaps develop a two-pager, or bullet points, primarily, that would summarize a way forward, and then this could be a discussion, or the presentation in the background, and all the components of that, at our next meeting. With that, I would recommend that Will

Patterson be chair of that subcommittee. Thank you, Mr. Chairman.

CHAIRMAN NANCE: Ryan.

MR. RINDONE: I feel like I'm having some déjà vu here, Dr. Barbieri, and I think this would be the third time the convening of such a group has been recommended, and I hesitate to say that the third time is the charm. If it's not, certainly we now have evidence of a pattern amongst the SSC.

I would encourage you guys to, I mean, obviously consider this, but also consider working through this problem in the time that we're carving out during the SSC meetings, but it isn't like I don't task you guys with a whole bunch of other stuff to do, and an additional subcommittee is going to be asking further, as far as time goes, because that group is going to need to at least dedicate some amount of time and energy to pursuing this, and so I guess, just respective of that, I would encourage consideration of working on it within the meetings.

We have time, a lot of time, and the rest of today, carved out for this, and I have a few hours carved out in July, and I can carve out some time again in September, and we can just continue to take whacks at this thing. I will say that, during my tenure here, this is by far the best discussion that we've had on the topic, in terms of you guys really identifying what you want, like what you're wanting to achieve and what you know that you don't know, as far as things that you want to see done, and so it's off to a good start, at least based on my experience, and so, you know, don't take your foot off the gas now.

CHAIRMAN NANCE: I think we can continue with that, and I'm going to let Will, just because his name was mentioned. Will.

DR. PATTERSON: Thank you, Mr. Chair. A lot of this feels like Groundhog Day, what Ryan was just alluding to, and I think that, if we had a clear task, that revisiting having a separate working group would be useful. I do think that Luiz Barbieri is uniquely qualified to lead that group, given his research background and experience in fisheries management, a member of two SSCs, a participant in multiple national SSCs, and I just think he's uniquely qualified to lead such a group, but I will go back to what I had mentioned earlier about funding a post-doc to actually do the analyses that we've mentioned in the past and that I mentioned again here today.

I just think that we're kind of doomed to repeat past failures, unless we actually have the analytical products to evaluate how a

change, or what potential changes, in the control rule might actually yield, you know, and we're not actually adding any new information to the mix here, and I appreciate Shannon's presentation this morning, but we've considered that approach, and, by approach, I mean borrowing the results of the Ralston analysis and applying them to the Gulf.

I don't think that's actually applying, or utilizing, the Ralston approach, and I think that's just applying its result, or their result, but, anyway, I think that's the kind of missing ingredient, as far as my perspective, that and, of course, Luiz's leadership.

CHAIRMAN NANCE: Thank you, Will. I guess I could put Luiz and Will in a room together. Shannon.

DR. CALAY: Thanks, Chair. I think, as long as this SSC is likely to use the sigma min from a Ralston-style approach, actually computed using the Southeast Fisheries Science Center stock assessments -- I have talked with the team, and it is something that we can probably produce. What we don't want to do is produce information that is not of utility, and so, essentially, if this SSC says, yes, we're interested in a Ralston-style sigma min, but we want it informed by Gulf stock assessments, then we can have that prepared in time for future discussions.

CHAIRMAN NANCE: Luiz, to that point?

DR. BARBIERI: Real quick, and thank you, Mr. Chairman. Shannon, can you give us an idea, and I know it's difficult to predict how long it would take to get this ready, but I think this would be important to know, when you could come back and present that to the SSC, because, to me, you know, as I said before, I think that Will's point was a valid one, and a great suggestion, but, if this is going to take basically two years to be completed, then we will have to adopt something interim, that moves us from where we are now to something that's more desirable, until we can have that better informed by our -- But, if that can be done sooner than later, then, yes, by all means.

CHAIRMAN NANCE: Shannon, to that point?

DR. CALAY: I think it's unlikely that we can have it done by July, because that briefing book deadline would be mid-June, but I think, for the subsequent SSC meeting, we could have a good estimate done by then. Now, I'm not promising the Privitera and Punt approach, because that does involve stock assessment projections, and, as one of you stated, the fact that some of our spawner-recruit relationships are poorly estimated doesn't -- It isn't very helpful

in that style approach, but I think the Ralston approach we could -- I have done that, actually, for a national stock assessment workshop years ago, and it's not, computationally, very challenging, and so I think we can have it done by the fall.

CHAIRMAN NANCE: Thank you. Dave.

DR. CHAGARIS: Thank you. I was just going to also throw in my support for the analysis, whether it be through a post-doc or the Science Center, and even maybe the post-doc approach would still be good to run these types of projection simulation testing of the harvest control rule, but I also wanted to say that, I mean, I really appreciate the presentation, and I thought the discussion this morning was really good, but there's a lot of things swirling around in the discussion, and maybe, to help move things forward, there's really like six decision points that I think we have to work through around these harvest control rules.

You have your sigma, which we talked a lot about, and you also have what goes on the Y-axis, and are we talking about a buffer, or a fishing mortality rate, and then you've got your B max, your B critical, and your Fmax, your maximum fishing mortality threshold, and there may be even an F critical, and so F may not have to go to zero. It could go to something really low, just to keep the fishery intact.

Maybe a way forward is to start nipping off each of those decision points and see what's needed and how we go about specifying them, and I would also like to just, as we're thinking about that, make sure that we don't box ourselves in with any one decision that won't apply well across all species, and so like we were talking earlier about this constant reduction of roughly 9 percent, and I would be concerned about making that decision now, and then we get down the road, and there is some situation, and so we need to try to think ahead and anticipate the challenges that might come before us.

CHAIRMAN NANCE: Thank you. Harry.

MR. BLANCHET: Thank you, Mr. Chair. To the point of the analysis, I think it would be extremely useful, not just for our own utility, but also in terms of communicating to the council why we are moving from these relatively narrow buffers to a broader buffer. Having information from the Southeast fisheries I think will be a lot more -- A much stronger argument than if we're borrowing the information from the west coast, even though -- Even if we were using the same types of analyses, but it's just such different ecosystems that it would make it much easier for our council

members, I believe, to agree to go along with this, if they see that that kind of variance is also present here.

CHAIRMAN NANCE: Okay. Thank you. Shannon, let me ask you, and, if we would like the Center to do that -- Ryan, I'm assuming that would be something that the council would need to ask?

MR. RINDONE: I think you guys would ask the council to ask the Center, and the Center knows that -- I mean, because is going to be a tasking of some not insignificant amount of time for those responsible, and so, if the Center hears about it today, they can certainly start working on it now, expecting a council request to that effect, which we have one of them here today who can talk a little bit more about you guys' discussions and rationale, from his perspective.

CHAIRMAN NANCE: Shannon.

DR. CALAY: Thanks. I do want to be clear though that what we can do by fall is estimate sigma min, using a Ralston approach and the typical Gulf stock assessments, but evaluating a control rule through an MSE is much more time consuming, and that will require probably a post-doc and more than a year, but we can give you an estimate of sigma min from a suite of Gulf stock assessments.

CHAIRMAN NANCE: So from -- Go ahead, Luiz.

DR. BARBIERI: No, go ahead.

CHAIRMAN NANCE: I was just -- From our discussions, what do we need to specify, in order for you to deliver a product that would be useful to us?

DR. CALAY: Well, you know, basically, I think I understand the task at-hand. You know, it's up to you whether you want to be specific about which stock assessments. The ones that are most useful in the process for Ralston at the ones that we assess frequently, and so we would have many stock assessments, over a number of years, to compare, and so I think, if you want to be specific about the species, you could be, or you could just leave it to us to attempt to use all the ones that are appropriate for that analysis.

CHAIRMAN NANCE: Dave brought up some points, and would those need to be discussed and specified before that, or would that be something that we could look at after the analysis?

DR. CALAY: Well, basically, the approach will require multiple

realizations of a stock assessment, and so it has to be one that's been conducted more than once, for example, but we have a suite of frequently-assessed species that we could basically use, or you can say do red snapper, red grouper, gag grouper, king mackerel. It's up to you.

CHAIRMAN NANCE: Luiz.

DR. BARBIERI: Thank you, Mr. Chairman. If we start thinking about this here, right, of what kind of guidance we want to provide to the Center, and so, you know, sigma is one value, and this will come out of the analysis, and so we know that the analysis is going to be producing that, the sigma min, and then we can decide on how we're going to -- You know, whether we're going to double and quadruple or whatever criteria we want to have with that sigma min, but then, for the analysis itself, I am thinking how do you want to structure this, because I think that, if either -- The Center's analysis will generate the sub-groups, based on values of sigma min, or the actual sigma that are associated with each one of those, if we can have those properly estimated, but I am thinking, you know, at some point, we want to differentiate, within our Tier 1 assessments, the ones that we believe are higher versus lower uncertainty, for whatever reason, and I don't know if those are going to just come out of the analysis.

Also, I think this is an opportunity for us to revisit this issue of how much buffer we assign, or different buffers that we assign, between assessments that are based on true estimates of MSY, where the stock-recruitment relationship can be estimated, versus using a proxy.

I always felt that, when you go to an SPR, you are really now, on a per-recruit basis, and you are acknowledging explicitly that you don't know what your recruitment dynamics -- I mean, this is such an important component that we use for managing, an important component of how we structure our projections and all, and, you know, unfortunately, as much as we want to separate our tiers, within that dimension of assessment uncertainty in our previous control rule, the difference between those two was almost imperceptible.

This might be an opportunity to say, if the Center can do the analysis, that one component there can be you do that analysis for the stocks that we have MSY known, versus the ones that we use proxy SPR for, right, and that would be -- Right?

DR. CALAY: I can certainly have the metadata also available for what FMSY proxy may have been used, and then we could select a

subset of stocks to create, for example, a Tier 1 sigma min, versus a Tier 2 sigma min, and so that can be done.

CHAIRMAN NANCE: Dave.

DR. CHAGARIS: I was just going to follow-up a little bit on the question that you asked, and I don't think that -- I think we can move forward with some of these other decisions about what the control rule could look like without holding up -- Without being held up by the Ralston analysis, and so that could almost be independent, and we could still revisit the harvest control rule and then come back and apply that sigma method, and, also, I agree with Luiz, and like we do need to have some contrast in the species that are analyzed, so we can get an understanding for how they may perform, and it may be that some of these species that have SPRs that we think -- That we know have more uncertain assessments, but, because everything has been fixed so much over time, that it actually looks like there is less variability over time, and so it will be interesting to see how it all falls out, and it's hard to speculate what will happen, but I think we can move forward with other components of this ABC Control Rule in the meantime.

CHAIRMAN NANCE: Thank you. Doug.

MR. GREGORY: Thank you, Mr. Chair. I realize that Luiz and others are more familiar with our stock assessments, but my impression is that, in the earlier years, we let the model go to a steepness of 0.99, and we said, well, we can't estimate MSY, and so we'll use a proxy, but, in the later years, in recent years, we've had models with a steepness of 0.85 and that sort of thing, where MSY could be estimated, but the review committee, or the SSC, or the analysts said, well, let's not use MSY, and let's go back to using an MSY proxy, and so I wonder if we even have enough MSY-determined assessments to make a comparison between the two.

I have always wished we could move toward letting the models predict MSY, like we did pre-SEDAR, or pre-SS, and be done about it, and, lately, it seems like going to an MSY proxy seems like an unnecessary -- Another level of uncertainty. Thank you.

CHAIRMAN NANCE: I don't know how many -- Shannon.

DR. CALAY: Well, I don't know the exact number either, but I do agree that it's probably very few, or maybe none, of our recent stock assessments where MSY has been completely freely estimated, and, typically, it's estimated with a prior, and it is zero at the moment, because we had done it historically, as Doug mentions, but, now, we're either estimating it, to establish approximately

where within the likelihood profile it falls, and then typically fixing it at value, right, or we're actually establishing a prior distribution and then selecting the mean, the median, of that prior distribution, frequently, and so it's pretty much never freely estimated in the most recent stock assessments in the Gulf.

CHAIRMAN NANCE: Luiz.

DR. BARBIERI: Right, but, still, I mean, unless you tell me otherwise, there are some criteria that we use here to say we actually have an MSY estimate. I mean, we may not have seen one like that in a long time, but you remember, Shannon, some of those were presented to this committee, and, you know, we looked at the criteria, and looked at the diagnostics, and we decided that, no, we're going to go with this, and it looks like it's a reasonable value, and, looking at the diagnostics, there is no reason for us to question this being considered a valid MSY estimate.

Maybe we don't have enough of those, right, at this point, but I think that, even if we use a prior, and, of course, that -- Now it starts getting complicated, right, because how you constrain the parameters of that prior is going to be key, but fixing it -- You know, it's a different deal, and it's almost like a predetermined establishment of the approach of what the stock is going to be, to some extent, and, of course, we do this in an data-informed way, and we make that choice that way, but, you know, it's a major uncertainty, and that's what I'm trying to think, right?

CHAIRMAN NANCE: Tom.

DR. TOM FRAZER: I am just trying to think about this from a council perspective and the process and what's going to be delivered, right, and considered, moving forward, and so my understanding, based on the discussion now, is that the SSC, and the other interested parties, will work toward implementing, establishing and implementing, a control rule of some kind that adequately characterizes, or captures, the scientific uncertainty, right, and so I think most council members are pretty good with the concept of how an OFL is set and what it represents.

I think they're becoming increasingly aware of the uncertainty in the assessment process, because of how we artificially constrain some of the input and variables, and so this issue of risk came up in the discussion, and so I don't -- I am wondering if the SSC is going to bring to the council options, as they relate to the ABC Control Rule, and are they going to weigh-in on what's acceptable scientific uncertainty?

I don't think they should do that, and I'm just talking out loud, right, and I think that's the purview of the scientific body, to decide how much scientific uncertainty are we comfortable with, moving forward, but I think you have to be in a position to explain to the council why you made that decision and why the approach that you've adopted is an improvement, relative to the old way of doing things.

Then there's still this issue of how you deal with the management uncertainty, right, and what's been frustrating, I think, from the council's perspective, is when a recommendation of some type of catch advice comes from the SSC, and you get an OFL, and you get an ABC, and you don't have many options, right, and, really, it's you conform to the ABC, unless there's a really compelling argument to add an additional buffer, which most people don't have a strong tolerance for accepting, and so then the issue is strictly an allocation issue, right?

There's no -- The only risk is the socioeconomic one, and it's not a risk as it relates to the sustainability of the stock, per se, and so it will be interesting, moving forward, if the decision points are, you know, or the recommendations are, here's the ABC, or the control rule, and we think this is the best, and we feel good, and we can defensibly state why we did that, and that's all good, but, moving forward, it would be helpful for the council if we said, you know, here is -- If you consider an ACL, for example, of -- Maybe it's equal to the ABC, or it's 5 percent less, or 10 percent, and this is the consequences, or the likelihood, for example, of exceeding that ABC, based on your catch history.

Then we're in a better position to evaluate things, moving forward. Otherwise, we're not really evaluating risk, and this body is assuming all of the risk upfront, and the council is essentially saying, okay, you put us in a position to say that, however we allocate fish in this process, it's going to be sustainable, right, and so you've assumed the risk, is what I'm telling you, unless you give us some options, moving forward, and so I would like to see -- I think most council members would like to see a further discussion of why you chose an ABC Control Rule, whatever it is, and then talk a little bit about the consequences of different ACLs, moving forward, and what a potential consequence of adopting one of those might be.

CHAIRMAN NANCE: Tom, so what you're saying is, as we move forward with a new ABC Control Rule, that, once that's been established, once we come up with that, then, during our discussions of why we're selecting that ABC, we need to do better about the risk associated with going over or meeting that ABC, and is that --

DR. FRAZER: Yes, and I think you need to be able to say that we feel comfortable, as a group, right, and, I mean, there's lots of factors and variables involved, but say this is an acceptable level of uncertainty, from a scientific perspective, and, if we implement this rule, we're not jeopardizing the sustainability of the stock, right, and, if you want to impose an additional buffer, to account for management uncertainty, this is the likelihood, for example, that you're going to bump up against that ABC, or exceed that ABC, and I think that would be helpful in the council making some decisions.

CHAIRMAN NANCE: Luiz.

DR. BARBIERI: Thank you, Mr. Chairman. I think this is very helpful guidance, Tom, because, you know, stuff that we may not be thinking about, in terms of developing this thing and communicating with the council what our intentions really are, and, I mean, if we're going to base this ABC Control Rule criteria, which we still have to establish what the criteria will be beyond just a sigma value, right, because we're going to be putting things into different bins for those different tiers, and we're going to use some other criteria to put those things into those bins, and so this would be one thing.

Then I think it would be helpful, like you said, for the council to understand that this uncertainty that is handled at this level is basically how well we know where OFL actually is.

If it's a clear picture to us, then the uncertainty is relatively small, and so we can actually set an ABC fairly close to that and not have a risk of -- Because we know where the edge is, right, and we don't step over the edge that way, but, when you look at something that is very fuzzy and unclear, then you have to separate a little more and put a little more distance there, because you don't actually know where the edge is, and you might be going over it without realizing it, right, and then the other side of that, I think -- So, here, in terms of risk, I think the council is going to have to revisit this issue of P*, because, right now, it's integrated into our ABC Control Rule, and now we are separating it, and they're going to have to make some choices about P*.

Either they have different P*s in different bins themselves, or they use our bins and just have one P*, like the Ralston approach kind of promotes, but, on the other side, what you're saying is that we usually don't step into that management uncertainty, right, and so going from ABC to ACL is something that -- We leave that conversation to be had at the council level, and, if I understand

what you're saying, is that's perhaps, just in a sort of presentation approach to them, to compare what happens, what are we measuring at the ABC Control Rule level, and where things could go, where they could go from that point forward, and I think that's a good idea.

CHAIRMAN NANCE: Ryan.

MR. RINDONE: Thank you, Mr. Chair. Just with respect to the management uncertainty side of things and the linkage that we now have that -- Just because of how the projections were done previously, that we didn't acknowledge it in the same way, and I don't want to say that we didn't have it before, but we just didn't acknowledge it in the same way.

When the council decides that it wants to make a modification to the sector allocations, the magnitude of that change can have an effect on the projections in a pretty meaningful way, especially as it can affect the terminal year in the assessment and that terminal year estimate of biomass relative to status determination criterial.

Therein lies a linkage between the scientific uncertainty and a management action that has, within itself, certain inherent management uncertainties, such as the ability to adequately predict and constrain seasons and fishing effort relative to in-season and post-season accountability measures and things like that.

It's kind of a gray area between the SSC's adherence to being science focused and the council's adherence to being more management focused, where there is -- You guys are kind of overlapping a little bit, and your decisions do affect one another, and just to not lose sight of that, and I think the new projection code does a good job of being able to kind of complete that feedback loop to that terminal year and provide -- Even if it's artificial, because the assumptions that we're making contrast beyond the terminal year, to better inform the uncertainty around the point estimate, and so just to not forget that, and that was all I had.

CHAIRMAN NANCE: Thank you, Ryan. Will, please.

DR. PATTERSON: Thanks, Mr. Chair. You know, part of the discussion -- The frustration in trying to parse all the components of this, for me, is it gets back to this issue about not having a true target under the current paradigm, and there's just a threshold, an OFL, and then you have to buffer away, so that threshold is not exceeded, and then part of the confusion, or

issue, with MSST, and setting it as low as 0.5 of BMSY, is the rationale, when that was presented to the SSC, was that we should never be there, because overfishing has been effectively eliminated by the way the legislation was written, and so we shouldn't have an issue with stocks dropping below the MSST, and it would make management less convoluted if we didn't have to constantly switch in and out of rebuilding plans.

By not having a true target of like what we're trying to achieve, we can't assess how effective management is, right, and simply avoiding overfishing is not a metric for success, because we can set a big buffer and never even come close to overfishing, but the opportunity costs of that approach I haven't seen assessed in this region, and I don't know how well they've been assessed in other regions, but, given the complexity of the fisheries, especially the private recreational sector's magnitude in the Gulf, those are real issues, and it's just tough for me to fully comprehend, or understand, the ramifications of things, like Tom Frazer was just mentioning, because of this issue about their not being a true target to focus on here.

I will bring that back to the discussion here, in saying that, when we're discussing this buffer and how to set it between OFL and ABC, and we're talking about uncertainty, much of the discussion here has been focused on the width of the PDF on OFL, and I think we're starting to slide into that discussion issues of precision, which is what it was originally meant for, right, the statistical precision of the estimates coming from the assessment, but also bias, or potential bias, right, with potential bias being the unknown unknowns from Shannon's earlier analogy.

If we're so wrapped up in unknown unknowns, then we can buffer our way down to zero, and, I mean, that's not feasible, and it's not practical, but that's the direction of pressure here, and it's not to -- It's not to promulgate management to produce OY. It's to never, ever even come close to possibly potentially exceeding MSY, and so, in doing this, the P*, that side of the rule, was to deal with the bias parts of uncertainty, and was there a new record to produce recreational landings estimates, and could we believe that that's accurate, and was there a significant environmental effect that wasn't put into the model, right, and so, if we check the box yes, there, then we increase the buffer, by lowering the P* value by whatever increment was in that table.

If we're going to do away with the table and the probabilities, then it becomes much more difficult, under this scenario, to estimate what our uncertainty actually is, and I understand it's not easy, even under the previous approach, but it's going to

become that much more difficult in trying to assess what's a precision issue, what's a bias issue, and I think, when we use the word "uncertainty", we should be specific to say this is an issue of precision, or this is an issue of bias, or potential bias.

CHAIRMAN NANCE: Thank you, Will. Dave.

DR. CHAGARIS: I was going to make a comment on the issue that Dr. Frazer brought up with the scientific uncertainty and management uncertainty, and, really, I think the only way that we can tease those apart is through the management strategy evaluation, and we can actually account for those sources of uncertainty separately, and so I think that's another good reason to try to push that forward.

I think what we can probably do, within the next couple of meetings, is come up like with our strawman control rule shape and some decisions and have that in place, so that, when the MSE does kick off, they've got a starting point, and I also wanted to just mention that I believe the South Atlantic Council has an MSE initiative for their snapper grouper complex, and there was an RFP that came out a few months ago, and so, if this is going to happen, it might be good to do it in tandem with the South Atlantic and just have some cross-seeding between those two groups, to learn to make it more efficient. Thank you.

CHAIRMAN NANCE: Shannon, is that --

DR. CALAY: Well, I know that's a council and SSC process in the South Atlantic, and the RFP was to actually, you know, hire for a position, I believe, and actually contract that work, and so we're happy to participate in that process, but it would be up to the South Atlantic Council whether that work could be expanded. I'm not sure how far along they are, but I agree with you that we need to get an MSE done, and we need to prioritize that, and so we can look at that option, and maybe others as well, for how that could occur.

DR. CHAGARIS: I wasn't suggesting that we piggyback onto the South Atlantic, but just, while the teams are in place, it helps to have that line of communication.

CHAIRMAN NANCE: No, I agree, and is there -- Was there an MSE position at the Center?

DR. CALAY: Yes, and so we do have an MSE position at the Center, and that's Cassidy Peterson, and I can certainly -- She works directly under John Walter, and I know that John Walter think that

this is a high-priority topic, but, that said, Cassidy is extremely busy, and so we can have that discussion at the Center and determine how long it might take for us to address an MSE and whether there is a need for us to fund an additional contractor.

CHAIRMAN NANCE: Because I'm with Dave, in the fact that what we're talking about here is the ABC Control Rule. The management risk, after that, is a whole different thing, and, while it would be good for us to have that discussion and talk to the council about what that risk is, I think -- Maybe I'm wrong, but, today, we really haven't ever discussed that within the SSC, and it's always been here's our OFL, here's our ABC, and that is what is presented. We've not ever, to my remembrance, talked about any risk past that ABC value. Thank you.

Let me ask this then, and is there anyone on the SSC that has an issue with us making a recommendation to have the council ask the Southeast Fisheries Science Center to develop this analysis that we've discussed?

DR. BARBIERI: Excuse me, Mr. Chairman, but that sounded very much in the tone of a motion there, if I heard it correctly.

CHAIRMAN NANCE: That was my attempt to say that I want to make sure we're all on the same page with this, and, if we are, I would appreciate a motion to that regard. John, please.

MR. MARESKA: I will make that motion for you. **The SSC requests, or recommends, the council requests the Southeast Fisheries Science Center develop the sigma for Gulf of Mexico stocks, utilizing the Ralston method -- I think we talked about using all of the Gulf of Mexico stocks, and so would that be Tier 1 stocks?**

DR. BARBIERI: Yes, Tier 1.

MR. MARESKA: For Tier 1 Gulf of Mexico stocks. Let's see if we can get a second, and then we can start wordsmithing this.

CHAIRMAN NANCE: We have a motion. John has made a motion that the SSC recommends the council request the Southeast --

MR. GREGORY: I will second it.

CHAIRMAN NANCE: Who is the second?

MR. GREGORY: Doug.

CHAIRMAN NANCE: Doug. Thank you, sir, and so we have a motion

and a second. Doug, did you have comment?

MR. GREGORY: I know the Center tried to do something like this five or six years ago, and I thought I heard -- I guess Shannon is now saying that it's timely enough to look at it again, because I would hate for them to go on task that's unachievable, and so my question for Shannon is, instead of looking at a retrospective analysis, is there some other criteria you could look at, from assessment to assessment, that would give us some insight into the variability and the uncertainty?

The one thing that comes to my mind is to -- Let's say a SEDAR assessment for king mackerel started in 2000, and we've done five or six of them, and could we look at the spawning stock biomass estimates of particular years across those assessments, and I know that we couldn't look at 2010, in an assessment done in 2000, but maybe we could look at spawning stock biomass estimates in 2002, or 2005, done in the subsequent stock assessments, and it seems to me that that would give us an idea of uncertainty, because those spawning stock biomass estimates should be very similar from assessment to assessment, and would that be a reasonable approach, in addition to say the retrospective analysis?

CHAIRMAN NANCE: Shannon, please.

DR. CALAY: So this approach would require us to create SSB time series for all of the stock assessments, and so, in theory, one could do the complete Ralston approach, which looks at all of the years, or one could identify certain years of interest, but the data will all be summarized and tabulated, and so I think we could -- You know, I think, with the data that we will prepare, that we could look at specific years, if the SSC wanted to examine that.

I did also, since I have the mic, want to say that Kristin Privitera-Johnson actually reached out to me during lunch, and she agreed to share her scripts with us for both Ralston and her extension of that approach and work with our team to create these estimates, and so thank you, Kristin. She is listening.

CHAIRMAN NANCE: Thank you, Shannon, and thank you, Kristin. John.

MR. MARESKA: So does that mean that we can add that request to this motion, because it's a slightly different method.

DR. CALAY: I think you can certainly request it, and we will do it, if it's feasible, but, because it does involve projections, and so many of our stock assessments lack good spawner-recruit relationships, I don't know if it will be productive or not, but

it is something that I wanted to explore, and, if it turns out to be a useful result, then we could present it. If it's not a useful result, then we would not.

CHAIRMAN NANCE: This motion would not preclude you from doing that, and is that correct, Shannon?

DR. CALAY: No, it does not, and, I mean, we will certainly look at the Ralston approach, and, if some subset of stocks are also feasible to examine, through the Privitera-Johnson and Punt approach, then we could certainly -- Given that she's willing to reach out and share her code with us, it sounds like we can accomplish that.

CHAIRMAN NANCE: Okay. Thank you very much. Luiz, to that point?

DR. BARBIERI: Yes, and, Shannon, I mean, I think you get the idea of what the SSC is requesting. Fortunately, you're here to, you know, be part of this discussion, and, as a former SSC member, you played a major role in developing the previous control rule, and so you have an understanding of where we're trying to get to, and the idea is for this motion not to be over-prescriptive, in a way, but give you the opportunity to look at this and develop the analysis that you see would go to the steps that need to be taken to get this done without us being over-prescriptive.

CHAIRMAN NANCE: Jack, to that point?

DR. ISAACS: I really just have a question. How many Tier 1 stocks do we have in the Gulf?

CHAIRMAN NANCE: Around thirteen. I am going to say twelve. Thirteen is kind of a bad number, but I'm going to say twelve.

DR. TOLAN: So you've got the over-under.

CHAIRMAN NANCE: Thank you, Jim.

MR. GREGORY: Was that a scientific superstition?

CHAIRMAN NANCE: Yes, it was, Doug. Thank you. I think there's around -- I know there is over ten, but I think we'll have enough -- I think we'll have enough Tier 1 type to be able to get some pretty good estimates on the sigma. Will Patterson, please.

DR. PATTERSON: Thanks, Mr. Chair. I think this motion is definitely a good start. We don't have, in here -- I guess, with Tier 1, that now accounts for data-rich assessments. Instead of

saying, "develop the sigma", I would suggest this say, "request a management strategy evaluation be performed to better account for scientific uncertainty".

CHAIRMAN NANCE: There is some discussion. Shannon, to that point.

DR. PATTERSON: After "scientific uncertainty" --

DR. CALAY: I think those two things would have to happen over much different timeframes, and so we would prioritize getting the estimate of the sigma min to inform this discussion, and then I need to go back to the Science Center. It may help to state your desire to have the MSE analysis, but the reality is the resources are limited to achieve that at this time.

DR. PATTERSON: Okay. Well, I guess, if the motion is simply to -- I misunderstood, and this is simply to estimate the sigma for Tier 1 Gulf stock assessments, using the Ralston method, then that's a first step to this, and I think I would abstain from voting on any motion put forward based on the results of that analysis alone, without having a more complete robust analysis done with these other approaches, which I think should include Restrepo and Ralston, as well as the Privitera-Johnson and Punt methodologies.

Even though many of the Gulf assessments have poorly-estimated stock-recruit relationships, I'm sure we could find some, within categories, similar life histories to other species that we could at least approach that, but it seems to me that we're still going to have a tremendous amount of uncertainty in making this decision if we only make a small step toward better information. In this analysis, we still wouldn't have an idea of how it would actually affect the probability of overfishing.

CHAIRMAN NANCE: Okay. Luiz.

DR. BARBIERI: I don't mean to disagree with Sub-Committee Chairman Patterson here, but, Will, I think that the thing here is moving forward, right, and it's adopting an incremental approach here to where we are now, right, to where we would like to be at some point, and this is why -- I liked your original recommendation and suggestion there for this analysis to be conducted, and I didn't think that we could have had that report in front of us in the next two or three years, before the next two or three years, and Shannon said, no, and, I mean, if, right now, you just want to have a better idea of what the values of sigma min could be for Gulf stocks, we can actually do that analysis and bring that to you sometime this fall, right, and that would allow us to apply

that in the development of our revised ABC Control Rule that basically uses the Ralston approach, and potentially the Privitera-Johnson and Punt approach as well, but we would have that in front of us.

Because she said, and I understand all the constraints there, it's going to take a while for the MSE to be conducted that would allow us to fully evaluate, right, relative to each other, the performance of each one of those methods, we would be able to adopt something, perhaps, interim, until that analysis can be brought in front of us, and that's my understanding.

CHAIRMAN NANCE: I do think this at least moves us forward. We're kind of stuck on the discussion for several years now, and this moves us forward, with the intent that it may not solve everything, but we can move on to other things. Any other comments? Jim.

DR. TOLAN: Thank you, Mr. Chairman. Now that we're back to the original motion, I only had one friendly amendment, and I say develop the value of sigma min for the Tier 1 stocks. That really does get at the genesis for the very first question that I asked after Shannon gave her presentation, was are we just simply going to borrow that sigma value from Pacific stocks, or use the Gulf of Mexico stocks, and I really like moving forward this way, and so I will certainly support this motion.

CHAIRMAN NANCE: Okay. Thank you. Doug Gregory, please.

MR. GREGORY: In support of some of Will's comments, I would like to, I guess, make an amendment to this motion, or, if the body likes, we can make it two different motions, but what I would suggest is, after the word "method", go "and evaluate the feasibility of setting ABC consistently at 75 percent of FMSY, as outlined in Restrepo et al.".

CHAIRMAN NANCE: This is me talking, but I think that would be separate.

MR. GREGORY: Okay. I'm fine with that. I will be glad to make it as a separate motion after this one.

CHAIRMAN NANCE: I think let's go ahead and entertain the first motion, and then, Doug, if you would be so kind as to make a second motion after we vote on this one, because I think it's -- We're going to look at the Ralston methodology, and it would be good to look at the Restrepo, if that's possible. I am looking at Shannon, and she's got a little frown, but anyway.

DR. CALAY: It would depend on whether we had projected an FMSY projection, and I don't know -- I think that's what Doug is talking about, is comparing it to the ABC that is produced by a projection of 75 percent of FMSY, which is frequently done, but I'm not entirely sure what Doug is asking for yet, and so I can't comment on whether it can be done.

CHAIRMAN NANCE: Okay. Let's go ahead and -- Harry, do you have a comment on this motion?

MR. BLANCHET: I have a question.

CHAIRMAN NANCE: Okay.

MR. BLANCHET: Who is voting on this? Is this the Standing SSC, or is this something that the Reef Fish or the Socioeconomic or the Shrimp or -- I don't know if the Coral is here or not, but any of the other SSCs, and so that's just a question of who should be voting on this.

CHAIRMAN NANCE: Ryan. Typically, we've had -- For the motions that I have sat on, everybody has voted. This is the first time that we've actually had the Shrimp SSC here, and so it's usually -- For the last meetings, it's been Standing SSC, the Reef Fish SSC, which this certainly, in my mind, is a part of, and we've had the Socioeconomic group, which has always voted, and so I -- Carrie, any direction?

MR. RINDONE: If you're present, you can vote. That's typically how we've done these things, and so your expertise has been summoned to the meeting for a purpose, and your expertise might be specific to say shrimp, or to reef fish, or mackerel, or whatever, but you're still an SSC member, at the end of the day, and so, if you're present, we have typically allowed the vote to happen that way.

CHAIRMAN NANCE: Thank you, and we'll continue with that theme then. Thank you, Harry. Let's go ahead and take a vote on this, and I think there's going to be some abstentions, and so I'm not going to ask if there's an objections.

Let me read the motion first, and then you can take the vote, Jessica. **The motion, as it stands, is the SSC recommends the council requests the Southeast Fisheries Science Center develop the value of sigma min for Tier 1 Gulf of Mexico stocks utilizing the Ralston method.** Let's go ahead and take the vote on that, please, Jessica.

MS. MATOS: Jim Tolan.

DR. TOLAN: Yes.

MS. MATOS: Richard Woodward.

DR. WOODWARD: Yes.

MS. MATOS: Sean Powers.

DR. POWERS: (Dr. Powers' response is not audible on the recording.)

MS. MATOS: Will Patterson.

DR. PATTERSON: Yes.

MS. MATOS: Jim Nance.

CHAIRMAN NANCE: Yes.

MS. MATOS: Trevor.

MR. MONCRIEF: Yes.

MS. MATOS: Paul Mickle.

DR. MICKLE: Yes.

MS. MATOS: David Griffith.

DR. GRIFFITH: (Dr. Griffith's response is not audible on the recording.)

MS. MATOS: Doug Gregory.

MR. GREGORY: Yes.

MS. MATOS: Benny Gallaway.

DR. GALLAWAY: Yes.

MS. MATOS: David Chagaris.

DR. CHAGARIS: Yes.

MS. MATOS: Harry Blanchet.

DR. BLANCHET: Yes.

MS. MATOS: Luiz Barbieri.

DR. BARBIERI: Yes.

MS. MATOS: Jason Adriance.

MR. ADRIANCE: Yes.

MS. MATOS: Michael Allen. John Mareska.

MR. MARESKA: Yes.

MS. MATOS: Donald Behringer.

MR. BEHRINGER: Yes.

MS. MATOS: Cindy Grace-McCaskey.

DR. GRACE MCCASKEY: Yes.

MS. MATOS: Jack Isaacs.

DR. ISAACS: Yes.

MS. MATOS: Jason Saucier.

MR. SAUCIER: Yes.

MS. MATOS: Peyton Cagle.

MR. CAGLE: Yes.

MS. MATOS: That's it.

CHAIRMAN NANCE: Jason is not on that list right now. Well, Jason is, but isn't there a shrimp member? Has he already voted? Okay. I am thinking that one of the --

MR. SAUCIER: I did vote, but she just mispronounced my name.

CHAIRMAN NANCE: Okay, and I'm trying to see where you're at on there. I see it right there. Thank you. I see it. Okay. I think that's all. Thank you. **It looks like it's unanimous.** There's a couple that are absent, and, Doug, why don't you please make your motion, and then we can have a discussion of it.

DR. FAIRBANKS: This is Luke Fairbanks, and I'm on the call, and I can vote, if you would like me to.

MS. MATOS: Sorry, Luke. What's your vote?

DR. FAIRBANKS: Yes.

CHAIRMAN NANCE: Thank you, Luke.

MR. GREGORY: Jessica, if we could rob the first part of the last motion. **The SSC recommends the council request the Science Center --**

CHAIRMAN NANCE: Probably "develop".

MR. GREGORY: No, not "develop". Take that part and add it to the bottom, and take out the word "and". **Evaluate the feasibility of setting ABC consistently at 75 percent of F at MSY, as initially outlined in Appendix A from the Restrepo et al. report.**

The important thing here, to me, is that we have used this approach for setting ABC intermittently in the past, and we have, on a number of amendments for fisheries, define OY as 75 percent of F of MSY, and it certainly seems to be a favorite of Will's, and it has logical consistency, but, at the January 2020 council meeting, where the SSC was recommending something similar to this in a different document, a status determination criteria document, the Science Center folks, or the IPT, wanted to change our listing of F of 75 percent, F of 85 percent, F of 95 percent, those options for OY, and they wanted to change that to strict percentages of OY, or percentages of MSY.

The argument was that, when you're using something like 75 percent, or 85 percent, of FMSY, you might find yourself in a situation where OY is larger than F of MSY. Now, for the life of me, I cannot imagine that, but, if that potential is out there, we need to know it and have it quantified, and so that's what I am trying to get at here, Shannon, because we've used it in the past, for ABC, and we've used it for OY, and, according to that report, and the Magnuson, or National Standards, OY is always to be less than MSY, and so that's my rationale for this motion.

CHAIRMAN NANCE: Okay, and I'm going to not ask for -- I'm going to ask if there's a second for this motion.

DR. BARBIERI: I will second for discussion, Mr. Chair.

CHAIRMAN NANCE: Okay. Luiz will second for discussion. Trevor,

please.

MR. MONCRIEF: Just a question on the nature of the motion and how we procedurally go down, once this evaluation occurs, and is the intent here to have this be evaluated, and, if it is feasible, then it's something that is put into place while the additional analysis is happening, for MSE and all that, and kind of what's the thought process here?

MR. GREGORY: To kind of go concomitantly with the other, because what I see, in our discussion today, is we've identified, in my mind, four different potential ABC approaches, and one is the one that the Center recommended, with the slopes and going down from the sigma to lower levels between BMSY to MSST, and that was one approach, and the second one would be to adopt the sigma from the west coast, and the third one is the motion we just passed, and the fourth one is this motion, and so there are four different ways we could go in setting the ABC Control Rule.

I think this one needs to be fleshed out more, so we can identify what the short-term impacts are, or the long-term impacts. In the Restrepo report, the equilibrium values of OY and MSY were very close, 94 to 98 percent, but, in the short-term, I'm sure they're not that close, and so that is the sort of dynamics that would be interesting to know, and we've used it in the past, and we keep talking about it. Now, I'm open to any wordsmithing, if the way I've worded it is confusing, or misleading, to anybody, or potentially misleading. Thank you.

CHAIRMAN NANCE: Thank you. Trevor, to that point?

MR. MONCRIEF: Just a quick follow-up, and it's not necessarily for Doug directly, but I guess it's more for everybody, and so we just passed a motion for one of the options, to begin looking at a Gulf-specific sigma, and then we're going to look at also this one, potentially, and I'm just wondering about -- You know, is the thought process that we would find some interim approach, where we're doing something more scaled to be able to evaluate, like choosing an option to go in between the time in which we're able to do an MSE for it, or are these going to be multiple options that we're able to look at and choose from when the time arises? I am just trying to look at it procedurally.

CHAIRMAN NANCE: Procedurally, these are motions of what we would like to see in future meetings. If we need to come up with something at this meeting for interim, and like, next month, if we're doing something, then we need to discuss that, and that's a totally separate thing though. Shannon.

DR. CALAY: So I'm requesting just a clarification. This specifically says 75 percent of FMSY, but I think you mean or its proxy. Okay. I did want to point out that there are cases that we've seen in the past where the equilibrium yield, at least, and that's fishing at 75 percent of F proxy, actually exceeds MSY, and it is a property of the spawner-recruit, the SPR-YPR curves, essentially, functions, and so, yes, it is a common term of reference, for Gulf stock assessments, to do a 75 percent of MSY or its proxy projection, and so we could summarize those outputs.

CHAIRMAN NANCE: Thank you. Will, please.

DR. PATTERSON: I had actually sent a motion, a while ago, to the meetings email, that I think captures what Doug is after here, but it puts it in the context of our earlier discussion of an MSE that would include other potential approaches as well.

CHAIRMAN NANCE: So we could have this as the substitute motion. Let me read the substitute motion that Will has sent. The SSC recommends the Gulf Council to request a management strategy -- This looks a little bit different than what Doug is proposing.

DR. PATTERSON: I think, if you read to the end, you will see where it captures this.

CHAIRMAN NANCE: What's that, Will?

DR. PATTERSON: Doug is proposing the Restrepo et al. approach, and that is in this motion.

CHAIRMAN NANCE: Okay. Let me -- **The SSC recommends the Gulf Council to request a management strategy evaluation to better account for scientific uncertainty, including imprecision and bias issues, in reducing ABC from OFL estimates or projections from data-rich -- Approaches to be considered should be those of Restrepo, Ralston, and Privitera-Johnson and Punt, among others. Okay.** Go ahead, Luiz.

DR. BARBIERI: Will, just a question. Why do you think that this would make a substitute motion to Doug's? I am thinking about the timelines, right, because Shannon already explained the MSE is going to take quite a while to be completed, and we don't know how long it's going to take, but I don't think we're going to see it for a while, and, Shannon, I may be going out on a limb here, but I would say a couple of years, to get this completed, right?

DR. CALAY: I think that's likely, that it would take in excess of

a year, especially if we had to contract it, because first we would have to actually get a source of funding.

DR. BARBIERI: So, Will, I'm not against your motion in any way, and I think that, ultimately, this is what we would like to see, and I would support a motion that makes that request formally to the Science Center, but I can see where Doug's motion is really trying to obtain something probably that we can look at this fall, at the same time that we see the other one, the other analysis they are running, and so, in my view, I think that having this as a substitute motion eliminates the previous motion, and I think it would be counterproductive to this discussion. Do you agree?

DR. PATTERSON: Well, I haven't got a second for it, and so it's kind of moot, but I don't disagree with you.

DR. BARBIERI: Okay. I will second the motion for discussion.

DR. PATTERSON: In Doug's first motion, this could happen more quickly. However, we've been talking about this for the better part of a decade, and we have started this process at least three other times, and we've had bits and pieces of analysis three other times, and, each time, our momentum stalled, because we didn't have the rich complement of information that we would need to fully evaluate this.

Personally, I don't see much value in doing this partway, even if it's easy and expedient in the near-term, without examining this in a more robust, complete analysis. We've done that, and we've proven to ourselves that it's not efficient, and it's not effective, and we end up at this point again and again, and so that's my perspective.

CHAIRMAN NANCE: Jim and then Sean.

DR. TOLAN: Thank you, Mr. Chairman, but the discussion point that I had dealt with the original motion, and so I think we need to let this one play out, if we get a second or not, and then we'll return to the original motion.

CHAIRMAN NANCE: Okay. Do we have a second for this substitute motion?

DR. POWERS: So I will second it, and I will sneak in my comment. Before Will put in this motion, which I do think makes a lot more sense, for me, because the way that Doug's motion reads, and I had a little bit of this with the first motion, and it seems like we're looking for something that we can just apply all the time, and I

don’t think we’re going to get there, because we need flexibility, a lot of times, and I would like to see the different approaches looked at, so we can get a sense of the strengths and weaknesses and when we want to apply them, because, when we look at scientific uncertainty, or our feel for scientific uncertainty, it varies greatly from different Tier 1 stock assessments to the other, and so a blanket 75 percent of FMSY, or at least examining that as our default, makes me uncomfortable, because I don’t feel the same way about the vermilion snapper, as far as scientific uncertainty, as amberjack, and a lot of that has to do with -- I don’t think we’ll ever find one, and I know the current ABC, and the one Shannon proposed, has the flexibility for us to depart from whatever is -- I think this motion gets at let’s examine some of the strengths and weaknesses and the context of what these different approaches do.

CHAIRMAN NANCE: Okay. Thank you. Jack.

DR. ISAACS: (Dr. Isaacs’ comment is not audible on the recording.)

CHAIRMAN NANCE: Thank you. Jason.

MR. ADRIANCE: Thanks. I kind of agree with what Luiz was saying, and I see the substitute motion as kind of what we were building towards with these motions of things we can get now, with ultimately wanting to see what the substitute motion says. Thanks.

CHAIRMAN NANCE: Okay. Thank you. Let me ask this procedural question, just out of curiosity, and so the substitute motion right now, and that’s what we would vote on, is, if it is accepted, does the other motion just leave?

MR. RINDONE: Yes.

CHAIRMAN NANCE: I mean, could it be resubmitted?

MR. GREGORY: At a different meeting.

DR. BARBIERI: (Dr. Barbieri’s comment is not audible on the recording.)

CHAIRMAN NANCE: Okay. Because, right now, if we do this one, the substitute motion, we would do it, and we would have our first data come in in the fall, but then we would have nothing else to look at, and this will come in later. Go ahead, Ryan.

MR. RINDONE: I mean, you guys have -- Like Doug had mentioned, you guys have used 75 percent of FMSY when application of Tier 1

in our current ABC Control Rule would likely yield an improbably, quote, narrow buffer. In light of the discussion that you guys have had, the substitute motion is not far afield of the original motion, and so it's all still within the same context, and like Luiz had mentioned, it's the end goal, is to be able to evaluate all of these things.

It's also not to say that the Science Center couldn't consider how the SSC has previously established catch limit recommendations to the council in the past for some of these different species, because -- I was chatting a little bit with Shannon about this, and, really, what we consider Tier 1 could kind of vary, depending on how you wanted to define Tier 1, and, I mean, is Tier 1 defined as actually using the ABC Control Rule, or is it more in line with what we consider to be a data-rich assessment? For instance, something like gag, we wouldn't consider that to be data poor, clearly, but we also didn't apply Tier 1 of the ABC Control Rule to it, and so I don't think it would be fair, in circumstances like that, not from a status determination criteria, but from a data rugosity criteria, to call those assessments not Tier 1 stocks just because they didn't actually have application of the Tier 1 of the ABC Control Rule.

I think that this is something that could be kind of folded in. Like the aspects of the original motion could ultimately be folded in, as part of your discussion and advice to the Center for how to proceed, through the substitute motion.

CHAIRMAN NANCE: Thank you, Ryan. Luiz, please.

DR. BARBIERI: I pass.

CHAIRMAN NANCE: Okay. Doug.

MR. GREGORY: Thank you, Mr. Chair. In response to Sean's concern, I think the language for the ABC Control Rules are that you follow it, but you don't have to follow it. You have the flexibility, which we've shown in the past, if you have good reason, and we have to explain why we're not following the control rule, but our approach has, for a number of years now, been criticized, repeatedly, for having too narrow buffers, and then, somewhat associated with that is whether it's capturing uncertainty, all the uncertainty we know is out there, and, oftentimes, we'll go to the 75 percent of the FMSY when we don't like the control rule.

The conundrum that I saw, in the past year or so, is we'll have a stock assessment that uses the control rule, and then we'll have an update assessment, two years later, and we use the OY, or the

75 percent, and so we're giving management advice based on two different analyses on the same stock in subsequent assessments, which bothered me somewhat.

If indeed this approach is problematic, as Shannon says it could be, we need to document that and quit using it, and come up with something else, and come up with a better definition of OY, but, if this approach is effective, then it becomes one of the four approaches we could use, and we might even get creative enough to have a basket of approaches that we can choose from, and I can't imagine that right now, but I don't think the substitute motion is a real substitute motion, in that it will take at least two years for that to be conducted.

In the meanwhile, we're going to continue along our way of, well, we'll accept the control rule, or we'll do F of 75 percent, going back and forth and back and forth, and it's time we quit kicking this down the road, if we can help it.

We've been talking about MSEs for years also, and apparently they're not as easy to do as it sounds like, and so I certainly don't support the substitute motion, and I would like to move forward with getting some evaluations of what looks feasible to us as a way to go forward with an ABC Control Rule. Thank you.

CHAIRMAN NANCE: Okay. Rich, please.

DR. WOODWARD: Just a quick question on the substitute motion. Would it be feasible, or desirable, to also include management uncertainty in this analysis? It seems like it might be an opportunity for that.

CHAIRMAN NANCE: I'm sorry, Rich, but --

DR. WOODWARD: I asked if it would be feasible, or desirable, to also evaluate management uncertainty in the evaluation in this management strategy evaluation.

DR. PATTERSON: Jim, can I address that?

CHAIRMAN NANCE: Will.

DR. PATTERSON: Thanks, Jim. I don't think management uncertainty should be included here. You know, the reduction from OFL to ABC is to include scientific uncertainty, and that's what we're after here with the ABC Control Rule. As far as an ACL or ACT rule that the council might have in place, I think the council should request an MSE done to examine those processes, but this is specific to

ABC, which is scientific uncertainty alone.

I don't want us to get too bogged down in the logistics of Roberts Rules here, but, if this motion, as a substitute, doesn't have much support, where folks feel that it's counter to the intent of the original one, I don't know if it can be withdrawn, now that there's a second, but I would rather see that happen than us to have repeated conversation about this not being an adequate substitute.

CHAIRMAN NANCE: Okay. Here's what I would propose, and I'm certainly not an expert in Roberts Rules, but I think, if we withdrew this motion, and we vote on the first motion, and, no matter what happens with it, I think they're two different motions, and then, Will, if you would please -- Once we vote on the original motion, if you would put the other motion back in as its own motion, and I do think that they're both -- I can see what Doug is trying to do, and I think that's doable within a timeframe, and I certainly appreciate what your motion does, because I do think it provides a path forward where we can be able to effectively look at all of these different things in a manner, and so, if you would be willing to do that, I think that we could do that.

DR. PATTERSON: I am if Sean is.

CHAIRMAN NANCE: Sean said yes.

DR. PATTERSON: Okay. Then let's just do that.

CHAIRMAN NANCE: Okay. We're going to vote on the -- Benny, I'm going to let you speak, and then we're going to vote on the first motion that Doug and Luiz made, and then we'll come back, and Will will resubmit this motion. Jessica, you can just keep it up there, but Will will resubmit the next motion, and we can vote on it. Benny, please.

DR. GALLAWAY: Thank you, Mr. Chairman. With your solution, I don't need to speak now. Thank you.

CHAIRMAN NANCE: Okay. Perfect. Jim.

DR. TOLAN: Back to the original question that I had on this one. B**ecause it's laid out in the first motion above it, are we just talking now about Tier 1 stocks**? I just want to make that clear.

CHAIRMAN NANCE: Yes.

DR. TOLAN: Okay. I just thought that we should add that.

CHAIRMAN NANCE: I think that would be -- Yes. So evaluate the feasibility of setting ABC consistently at 75 percent of FMSY or its proxy -- Where would we put that, Jim?

DR. TOLAN: At the end.

CHAIRMAN NANCE: At the end? Thank you. Just put -- I think it's "for Tier 1 stocks". Sean.

DR. POWERS: I'm a little unclear on what "evaluate the feasibility" means, and do we want the actual numbers, or do -- Is he just trying to ask Shannon if they can do it? I assume it's more that the specific numbers, and then I guess the only word that I object to is "consistently at" -- Of setting "ABC consistently", because I guess, Doug, to your question, is this -- Essentially, you're asking if this would work as the default rule, and is that what the meaning of "consistently" -- Is that why the word "consistently" is there, is that you're proposing this as the default, unless we have some strong inclination of another method?

MR. GREGORY: Yes, that was my initial thought, but I don't think it's needed, because this is not the time to decide if it would be the default or not. Since we use this approach quite often, and we've used it an as alternative to our existing control rule --

DR. POWERS: I would feel better if you delete "consistently", if that's fine with you.

MR. GREGORY: That's fine with me.

CHAIRMAN NANCE: Luiz?

DR. BARBIERI: No, I don't have any problem with that.

CHAIRMAN NANCE: Okay. Jack.

DR. ISAACS: This could be splitting hairs, but do we really need the adverb "initially" before "outlined", or can we just say, "as outlined"?

MR. GREGORY: That's fine with me, also. Like I said, I do think of these motions as developing a consensus statement, and so I have no problem with editing, as long as it makes people more comfortable with it.

CHAIRMAN NANCE: Okay. Thank you. Rich, please.

DR. WOODWARD: So that was my question, and what does it mean to evaluate the feasibility? Maybe that's clear to everybody in the room but me, but I'm not sure what that means.

MR. GREGORY: In my mind, it was that statement that Shannon made that sometimes this will not work, and sometimes this will lead to an ABC that's larger than MSY, and, in that case, it's not feasible, and, if that's only on rare, extreme cases, then maybe it is feasible, and so that's what I meant by the word "feasibility".

CHAIRMAN NANCE: I think it's, looking at the utility, is this 75 percent of FMSY doable in all cases, to look at that. Okay. If there are no other questions, let's go ahead and -- Dave, please.

DR. PATTERSON: I mean, I was a little bit confused about the feasibility definition there, and would you be willing to make that more explicit, Doug, and just say "evaluate the frequency that setting ABC at 75 percent of FMSY exceeds OFL", just to be more specific about what exactly it is that you're looking to get out of the analysis?

MR. GREGORY: Probably not that. Evaluate the --

DR. PATTERSON: Evaluate the potential for -- I hate to wordsmith on the fly.

MR. GREGORY: Okay. **Evaluate the potential for setting ABC at 75 percent of FMSY, or its proxy, without exceeding FMSY, or its proxy.**

DR. PATTERSON: Okay. To me, that's more clear exactly what we would be looking to get out of the analysis, and I don't know if that helps others.

MR. GREGORY: Yes. Thank you.

CHAIRMAN NANCE: Okay. Let me read the motion, and then we'll go ahead, Jessica, and vote. This is the motion from Gregory and Barbieri. **The SSC recommends the council requests the Southeast Fisheries Science Center evaluate the potential for setting ABC at 75 percent of FMSY, or its proxy, without exceeding FMSY, or its proxy, as outlined in Appendix A, the Restrepo et al. report, for Tier 1 stocks.**

MR. BLANCHET: Mr. Chairman?

CHAIRMAN NANCE: Harry. I'm sorry.

MR. BLANCHET: Just a suggestion, and you could do a little clean-up if you, after Appendix A", say "of the" and add "1998" after "Restrepo et al.". Thank you.

CHAIRMAN NANCE: Perfect. Thank you. Let's go ahead and -- Dave.

DR. PATTERSON: Just, as you were reading it, I was wondering, and should it be "without exceeding OFL", and then delete "or its proxy".

CHAIRMAN NANCE: Yes. Thank you. That was a good catch. Okay, Jessica.

MS. MATOS: Jim Tolan.

DR. TOLAN: Yes.

MS. MATOS: Sean Powers.

DR. POWERS: (Dr. Powers' response is not audible on the recording.)

MS. MATOS: Trevor Moncrief.

MR. MONCRIEF: Yes.

MS. MATOS: Doug Gregory.

MR. GREGORY: Yes.

MS. MATOS: David Chagaris.

DR. CHAGARIS: Yes.

MS. MATOS: John Mareska.

MR. MARESKA: Yes.

MS. MATOS: Jack Isaacs.

DR. ISAACS: Yes.

MS. MATOS: Luke Fairbanks.

DR. FAIRBANKS: Yes.

MS. MATOS: Jason Saucier.

MR. SAUCIER: Yes.

MS. MATOS: Donald Behringer.

MR. BEHRINGER: Yes.

MS. MATOS: Jason Adriance.

MR. ADRIANCE: Yes.

MS. MATOS: Harry Blanchet.

MR. BLANCHET: Yes.

MS. MATOS: Benny Gallaway.

DR. GALLAWAY: Yes.

MS. MATOS: Paul Mickle.

DR. MICKLE: Yes.

MS. MATOS: Will Patterson.

DR. PATTERSON: No.

MS. MATOS: Richard Woodward.

DR. WOODWARD: Yes.

MS. MATOS: Jim Nance.

CHAIRMAN NANCE: Yes.

MS. MATOS: David Griffith.

DR. GRIFFITH: (Dr. Griffith's response is not audible on the recording.)

MS. MATOS: Luiz Barbieri.

DR. BARBIERI: Yes.

MS. MATOS: Cindy Grace-McCaskey.

DR. GRACE-MCCASKEY: Yes.

MS. MATOS: Peyton Cagle.

MR. CAGLE: Yes.

CHAIRMAN NANCE: Okay. Thank you. We're going to take a fifteen-minute break, and, Will, after that break, would you be so kind to resubmit that motion, and we'll ask for a second on it, and let's go ahead and --

DR. PATTERSON: Sure.

CHAIRMAN NANCE: Thank you. We'll come back at five to, and so 2:55 p.m.

(Whereupon, a brief recess was taken.)

CHAIRMAN NANCE: We're going to go ahead and start, and so everybody come on back to the table. **We have a motion that's been submitted by Dr. Patterson, and Sean has seconded that motion, and he has reconfirmed that.** Let's continue discussion on this motion. Any discussion from the SSC body? Trevor, please.

MR. MONCRIEF: I will just state that I agree with the motion, as it's worded, and I think it's -- In a sense, it's pragmatic. Let's go ahead and get it out there and put it out as a motion, so we can start to move forward, and I think that's the end goal, based on that conversation that everyone has had through this meeting.

CHAIRMAN NANCE: Thank you, and I do think it's an excellent motion, and I'm going to vote for it, and I think it moves us from where we have been and see where we want to go. It may take a while to do this, which is okay, but at least we have a sense of where we want to look at. Jim, please.

DR. TOLAN: I will throw my hat into supporting this motion. I went back and looked at some of my notes on Will and the Restrepo et al. approach, and it goes back to 2013, and so he's been pushing for this for a while, and I will certainly support this motion.

CHAIRMAN NANCE: Thank you. Benny Gallaway, please.

DR. GALLAWAY: Thank you, Mr. Chairman. Who is this request being made of? Is this also to the SEFSC, or is this someone else?

DR. PATTERSON: I intentionally left out that component, because, in my view, if the Southeast Fisheries Science Center scientists have the capacity and time to do this, then great, but this could

also be done by academics, or folks at other agencies, and not just the Southeast Fisheries Science Center, and so it doesn't preclude that, but I intended to leave it open, so that it wasn't just specific to them.

CHAIRMAN NANCE: Thank you, Will.

DR. GALLAWAY: To that point, Jim?

CHAIRMAN NANCE: Yes, Benny. To that point?

DR. GALLAWAY: Would that then need funding from some source, or would you all go out as an RFP, or -- I'm not quite sure how this would work.

DR. PATTERSON: So that's possible. It could be included as a priority in MARFIN or S-K or CRP RFPs, and it could be direct funding through SEMIS or one of the cooperative institutes. I think there are lots of mechanisms for that, and I don't think we necessarily have to specify that here, but there are different ways that can happen.

DR. GALLAWAY: Thank you.

CHAIRMAN NANCE: Okay. Any additional comments? Go ahead then, and I will read the motion, and then we'll be taking a vote on it. **The motion reads: The SSC recommends the Gulf Council to request a management strategy evaluation to better account for scientific uncertainty, including imprecision and bias issues, in reducing ABC from OFL estimated or projected from data-rich Gulf stock assessments. Approaches to be considered should include those of Restrepo et al. (1998), Ralston et al. (2011), and Privitera-Johnson and Punt (2020), among others.** I guess I will ask if there are any -- Well, let's go ahead and do a roll call vote on this. Jessica, go and do that, please.

MS. MATOS: Peyton Cagle.

MR. CAGLE: Yes.

MS. MATOS: Cindy Grace-McCaskey.

DR. GRACE-MCCASKEY: Yes.

MS. MATOS: Michael Allen.

DR. ALLEN: (Dr. Allen's response is not audible on the recording.)

MS. MATOS: Luiz Barbieri.

DR. BARBIERI: Yes.

MS. MATOS: David Griffith.

DR. GRIFFITH: (Dr. Griffith's response is not audible on the recording.)

MS. MATOS: Jim Nance.

CHAIRMAN NANCE: Yes.

MS. MATOS: Rich Woodward.

DR. WOODWARD: Abstain.

MS. MATOS: Will Patterson.

DR. PATTERSON: Yes.

MS. MATOS: Paul Mickle.

DR. MICKLE: Yes.

MS. MATOS: Benny Gallaway.

DR. GALLAWAY: Abstain.

MS. MATOS: Harry Blanchet.

MR. BLANCHET: Yes.

MS. MATOS: Jason Adriance.

MR. ADRIANCE: Yes.

MS. MATOS: Donald Behringer.

MR. BEHRINGER: Yes.

MS. MATOS: Jason Saucier.

MR. SAUCIER: Yes.

MS. MATOS: Luke Fairbanks.

DR. FAIRBANKS: Yes.

MS. MATOS: Jack Isaacs.

DR. ISAACS: Yes.

MS. MATOS: John Mareska.

MR. MARESKA: Yes.

MS. MATOS: David Chagaris.

DR. CHAGARIS: Yes.

MS. MATOS: Doug Gregory.

MR. GREGORY: Yes.

MS. MATOS: Trevor Moncrief.

MR. MONCRIEF: Yes.

MS. MATOS: Sean Powers.

DR. POWERS: Yes.

MS. MATOS: Jim Tolan.

DR. TOLAN: Yes.

CHAIRMAN NANCE: Thank you. Any other SSC motions on the parts of the discussion that we've had thus far? If none, Dave, you had that list, that maybe can discuss some of those items, and if you could maybe take us through that one-by-one, and we could have a discussion on each of those items, and I think that would give us -- We have these things that we put into motion, and I think, for the next meeting, we will be able to -- Or in a couple of meetings, we'll be able to look at those results for two of them, but there are other things that we can talk about and maybe get a sense of where we want to go with some of those other items.

DR. CHAGARIS: The items that I read off the list are basically the change points on the harvest control rule plot, and so I don't know if we have figure that could be brought up from Shannon's presentation, and so I think some of them might be pretty easy, as far as the minimum stock size threshold and BMSY, but all of those, I think, should be considered, as far as --

CHAIRMAN NANCE: Let's go ahead and -- I wonder what --

DR. CHAGARIS: It's the one that had the blue and the red line.

CHAIRMAN NANCE: Would that one be it, or the next one?

DR. CHAGARIS: I would go down.

CHAIRMAN NANCE: I think it's down -- I think it's this one.

DR. CHAGARIS: This one will work.

CHAIRMAN NANCE: Okay.

DR. CHAGARIS: Like, for example, you have two points on the Y-axis and two points on the X-axis, and it's kind of hard to wave my arms when nobody can see it, and so I would -- I guess we could start with what would be considered the maximum fishing mortality threshold, which would be, I guess, essentially that -- Well, it depends on -- I will read off the items again.

We have sigma, which we've talked about, and the other thing I wrote down that I didn't mention before are the tiers, and I believe that Luiz mentioned that we might want to revisit the tier structure, and is that right, and so that might be an overarching thing, but, as far as the control rule goes, you have your Bmax, which is the biomass at which the maximum fishing mortality can be applied, and, in those figures, Shannon had it set at BMSY, and so it could be at BMSY, or it could be at half of BMSY, or it could be at one minus M times BMSY.

CHAIRMAN NANCE: Those probably are stock specific, aren't they?

DR. CHAGARIS: They would definitely be stock specific, but it would be great if we could come up with --

CHAIRMAN NANCE: A rule of why we would use one over the other? I wonder if -- John.

MR. MARESKA: To that point, I think Doug Gregory brought it up earlier, that we probably want to use the BMSY for a stock where we're using the new MSST definition, and, talking about past failures that we've had, particularly greater amberjack and red grouper, if we're looking at the reference of B to BMSY, if it's below one, then, if we were following that trend, it's less likelihood that we would get into an overfished or overfishing position, and recovery would be a lot quicker for that stock, for those stocks, because, from the stock assessment, we would have the OFL, and we're at a 50 percent chance of overfishing, and yet

we still seem to be overfishing, using the MSST line, and so, to me, that's just justification for using that other line, and so that's just something to consider, particularly for the reef fish, to use that BMSY, and, for something like king mackerel, the MSST line.

CHAIRMAN NANCE: Thank you. Harry.

MR. BLANCHET: This is kind of getting into a little bit of the discussion of selection of different curves here, and I think that's a little bit different than where we started off, but far be it for me to continue going down a rabbit hole. I think that this is an appropriate thing for the workgroup, or however it's framed, as part of whatever subgroup Dr. Patterson is going to chair up there, for them to evaluate, but I don't think it's as straightforward as has been outlined, because if we look at actual yield curves, rather than F profiles, you might come up with some very different points, and, in terms of how do you approach this and present it to the council, I think it's going to require some refinement.

To I believe it was Paul's original point, you also want to have your Bmin, which right now we've got as a 0.1 of BMSY. However, again, I see that as a decision point, and so I was thinking more in terms of the Bmin, but I did want to throw in the other thing. Thank you.

CHAIRMAN NANCE: Thank you, and I think we want to leave it as discussion within the SSC. Dr. Patterson has not been assigned, nor has he volunteered, to chair any committee at this time, and so we'll keep it within this body to discuss these points. Doug, please.

MR. GREGORY: Thank you, Mr. Chair. I guess this is where I become redundant, or get redundant, and the thing that is missing here is these are both ABC alternatives. What's missing is OFL. OFL is one, and so there should be another line across the top at one, and I think the question is, once we get below BMSY, would we want to continue with the same -- Well, let me call it minimal, for lack of another descriptor, but minimal buffer, rather than a gradually-increasing buffer, if the current biomass decreases from BMSY to MSST?

I also think these curves should stop at 0.5 and not go down to the X-axis, because I would prefer to actually develop a rebuilding program whenever MSST is exceeded, but I think, at this point, it's moot whether the decreasing line, the slope, is more conservative than a rebuilding plan is, because they're both going

to be very conservative, because you're trying to rebuild a population from less than half of its maximum sustainable yield.

CHAIRMAN NANCE: Let's go ahead and -- Jessica, can you bring Doug's graph up, please, if that's possible? I think it's a different presentation.

MR. GREGORY: Yes, and I want to remind people that we left gag with an ABC divided by OFL of 0.08, and so, if we use a B critical of 0.1, we're basically saying we would recommend closing the gag fishery, and that is something we tried to avoid, at our last meeting.

CHAIRMAN NANCE: I think it's one more down.

MR. GREGORY: Yes, and what I was trying to show with the first graph is that it continues like the Center graph does, except it goes to zero, and there is no B critical, and, again, because of my logic of establishing a rebuilding program, whenever we get to one-half of BMSY, and so I've got two or three things combined here, and you see that I've got OFL at one, and then the ABC line.

The difficulty we're going to have, I think, is convincing the council to be more conservative in that interim period between 0.5 and one, biomass divided by biomass at MSY, because that is more conservative than just taking into account uncertainty, and so that will be a challenge, and, as Shannon told us last year, she can look at, or give us, different slopes, and my slope happens to be a one-to-one slope, slightly less conservative than what Shannon's graph shows, but it was interesting that, at 0.9 of B over BMSY, my graph is like 1 percent less conservative than Shannon's, or the Center's.

At 0.5, my graph is 10 percent less conservative, and so, as you get closer to zero, they do diverge a little bit, and I won't repeat this and beat a dead horse, because everybody else needs to think about this and talk about it, but this is where I see this approach going, and our big sell is going to be with the council and having buffers that are bigger than what the uncertainty analysis shows you should have. Thank you.

CHAIRMAN NANCE: Luiz.

DR. BARBIERI: Thank you, Mr. Chairman, and, Doug, we talked about this before, and I understand what the intent here is, and I am not opposed to this, from a conceptual approach, but I just -- I mean, I have to say that I would hate to be the SSC member in front of the council and being asked that question of can you explain to

me how this ABC Control Rule is actually abiding, right, in line with the guidelines of NS 1 and actually not being just based on that buffer for scientific uncertainty, right?

Shannon, sorry to put you on the spot here, but I think that this -- Because this is the Center's, one of the Center's suggestions, or perhaps one of the options presented by the Center, I think that could spill, that question, into the Center as well.

I mean, I am not against us conversing, right, with the council and saying, listen, there are situations when we would advise you to be more conservative, because there is a risk, a higher risk, here associated with the management of this species, and the uncertainty is beyond what we can appropriately quantify, and we recommend that you go this way.

Another thing is, because this ABC Control Rule, and our ABC determination, is prescriptive to the council, it becomes difficult for them to depart from them, unless they generate something below, either equal to or below, our ABC, and I think it's going to put us in a -- That's why I'm bringing it up, is it's going to put us in a little bit of a pickle of explaining that to them and the public, given what our role here is as an SSC and to base that buffer between OFL and ABC on scientific uncertainty, and I think that, when we talk about integrating stock status into this, we're stepping a little bit more into the policy issue that is beyond our role, and so I just want to put this there as a word of warning for us to discuss.

CHAIRMAN NANCE: Shannon, to that point, please.

DR. CALAY: Thank you. Yes, I can certainly agree with you, Luiz, that, at least the way it has been interpreted, and I believe has not been objected to by the agency, it is the council's prerogative to determine the MSST level, for example, and it can be set as low as 50 percent of BMSY, and that's what they had chosen to do, and, while the Science Center did, recall, produce a simulation study that demonstrated that that rarely happened, due to the variability we discuss in recruitment, or natural mortality, that almost always happened because of overfishing in the stock.

That is what happened, and it was ruled to be -- We certified it in the FMPs where it came up, and I think that what Doug is showing would have to be a negotiation, and it would have to be that the council accepted that it was a better idea of their risk aversion, right, because the situation that they have right now was just demonstrated through gag, where, if you get to a level that is below BMSY for some stocks, or even -- Sorry. I mean below 50

percent of BMSY, or even substantially below that, then it can result in a very drastic and dramatic rebuilding plan that could essentially end fishing for that stock for quite some time.

If we were to implement -- I mean, I think the SSC could make a recommendation that the council explore an ABC Control Rule like this, but I do think, ultimately, it's probably the council's prerogative to determine whether they want to move in that direction.

CHAIRMAN NANCE: Thank you. Dave.

DR. CHAGARIS: I think -- I was going to point out that there's other options, as far as like -- I think we were talking about B critical, where F would go to zero, and F doesn't necessarily have to go to zero at B critical, and so there is other options there, if, for example, the biomass were to fall far below BMSY, but we could still have a small harvest that would, you know, keep the fishery on life support and still collect scientific data for us, and that can also be built in, and that's an option that hasn't been shown in these conceptual figures, but you could have an F critical, and so the F, or the buffer, in the case, at that B critical doesn't necessarily have to be zero.

CHAIRMAN NANCE: Thank you. Doug.

MR. GREGORY: Thank you. Also, harking back to our Restrepo paper, in the early parts of the paper, page 18 and 19, they do talk about something similar to this, and let me read it. The dependence of MSST on the MSY control rule is illustrated for linear or linear type of control rule. Here, the MSY control rule sets MFMT constant for biomass levels above BMSY and decreases it linearly with biomass below BMSY. The solid lines and ABC represent three such control rules, and the dashed lines indicate the corresponding MSST levels.

It's not that this is a new concept, but I do think, and I agree with Luiz that the council needs to be made aware that, when they changed the definition of MSST from one minus M to 50 percent BMSY, they radically changed the playing field, and now, just because something is at 55 percent BMSY, and it's not called overfished, it does not mean, by any stretch of the imagination, that it's healthy.

So we do have some precedent for this, and I think National Marine Fisheries Service could go a long way, in council meetings and in the discussion about this, that we need something similar to this to have a robust fishery. Thank you.

CHAIRMAN NANCE: Thank you. Luiz.

DR. BARBIERI: Thank you, Mr. Chairman. Quick question, and I don't know if you know this off the top of your head, Shannon, or maybe Patrick, if it's in his back-pocket knowledge from the other councils, but do you know what the value of MSST is for -- I mean, how that is set up for the other councils? I know the South Atlantic Council is at 75 percent of BMSY.

DR. CALAY: The Caribbean Council is also 75 percent of BMSY, and, actually, ICCAT uses BMSY as the overfished definition, and the domestic policy differs for the tunas. They can go as low as 50 percent of BMSY, and so I don't know the other councils by heart.

DR. BARBIERI: Well, at some point, I think I saw the Pacific I think uses half of BMSY as well for the MSST, but I may be misremembering this one, and it should be easy to find on Google sometime, but --

CHAIRMAN NANCE: So it sounds like we have other councils at 75 percent. Is it 0.5 for all now, or just some? Okay, and so certainly a lot of discussion on this point, and it's almost -- I don't want to say stock-specific still, but I'm not sure -- To make every stock have the exact same linear representation, and I think biology and other things need to come into how this is applied. Ryan, please.

MR. RINDONE: Thank you, Mr. Chair, and so Reef Fish Amendment 44 established a minimum stock size threshold for 50 percent of the biomass at maximum sustainable yield for gag, red grouper, red snapper, vermilion snapper, gray triggerfish, greater amberjack, and hogfish.

CHAIRMAN NANCE: All the others are 75 percent?

MR. RINDONE: They may have other definitions, and so they might be 75 percent, or it may be one minus M, and I think, in mackerels, it varies between being based on natural mortality and being a fraction of that BMSY.

CHAIRMAN NANCE: Okay. Harry, please.

MR. BLANCHET: Thank you. I'm sorry, but I got a bit sidetracked here, but, going back to the B critical, I am thinking in terms of F here as a fraction of total mortality, and so, by the time you get down to what we're talking about, 0.1 of BMSY, your fishing mortality is really a small fraction of your total mortality, and

so we've had a couple of folks speak about maintaining some small fraction of the fishery, and I'm not sure that, if you don't draw that line straight down to zero, zero, that you don't do the same thing.

Essentially, there is nothing but a tiny fraction of that fishery left, by the time you get to 0.1 anyway, and so I don't know that there is -- If you're thinking in terms of that, I don't know if there is any benefit in determining a B critical above zero, and I'm just throwing that out for discussion.

CHAIRMAN NANCE: I think the only reason, Harry, would be if you went down to pure zero, and you would have no catch, whereas, if you left it at a tiny fraction of F, at least you would be able to have some catch from that stock.

MR. BLANCHET: You would have no fish left to catch at zero.

CHAIRMAN NANCE: What's that?

MR. BLANCHET: But there's no fish left to catch at zero, and so, at zero, you have terminated that stock.

CHAIRMAN NANCE: Okay, because you're looking at the biological line.

MR. BLANCHET: It's basically a zero biomass, but let's take it at 5 percent of BMSY, and, at that point, at 5 percent of BMSY, you're depending upon what your natural mortality is, and it is going to be many multiples of what your fishing mortality is, because you have reduced that fishing mortality down to a small fraction of what the F would be to maintain BMSY, and so your F is much smaller, and your biomass is much smaller. Therefore, your harvest is much, much smaller.

CHAIRMAN NANCE: Yes. Okay. Any other comments on this graph? Dave, I'm not sure we moved in any direction for you, but it's --

DR. CHAGARIS: I mean, I was trying to maybe bite it off piece-by-piece, and if we could, you know, say, well, these might be three options to consider for your Bmax, and get those on paper, but I think it's going to be hard to move this group that way in this format, maybe, and so I don't know, and we can go whichever -- You're the Chair.

CHAIRMAN NANCE: Yes, and I'm trying to move us forward in some area, and, if tiers would be something we could discuss, Luiz, we can talk about tiers, and I think that would be somewhere where we

could have a discussion. This one seems to be difficult, in the fact that it's -- If we don't have a species up there, it seems we're having a hard time coming to agreement on different things. Dave.

DR. CHAGARIS: I don't think we need to come to agreement on that today. I mean, I think, if we can get options on the table of these are the things that we're considering, and we really won't know what's best until the MSE is done, and, until that happens, we can only kind of speculate, but there is other things to consider.

I mean, the rules that we've seen put in front of us now really don't account for any life history, which is why I would like to see natural mortality brought back in, and how does the slope of these lines compare to an F rebuild strategy, and so Shannon mentioned earlier that the greater amberjack rule was more conservative, but what adjustments to that curve could be made for that species, so that, when it did fall below MSST, it would meet the rebuilding plans that we're supposed to be meeting?

There is a lot to work through on these curves, and I don't think we have to come to an agreement, but, if we can get things on the record, and get options out there, maybe that will help move us forward.

CHAIRMAN NANCE: Thank you. Harry.

MR. BLANCHET: Thank you, Mr. Chairman. To the question of other parameters, P*, in the Ralston, the discussion of P*, basically the Pacific Council selected P*s, and, to me, what that implies is that the Pacific Council is considering P* in a very different context than what we have considered P* in the Gulf.

We have considered P* as basically a characterization of how well the stock is described by the assessment, and so using P* as a fixed value for all of their Tier 1 stocks seems to be at a very different approach than the way we have been doing it here, and so, although we may be using the same value as the parameter, I don't know that we're applying it the same way, because a P* of 0.45 -- If you think about it in the Gulf, what we're talking about is that, nine out of every twenty years, you would be overfishing, and a P* of 0.4 is, eight out of every twenty years, you would be overfishing.

That is, without considering all of the other parameters that are in that management framework, but that's how we think of -- That's certainly how I think of P*, and maybe I'm way off on that, but

that was just my comment. Thank you, sir.

CHAIRMAN NANCE: Thank you. Doug, please.

MR. GREGORY: Thank you. **What I would like to do is present a motion to the effect that the -- Just to help start a discussion, or start the thought process, with the council, that the SSC is discussing the potential need to increase the ABC buffer as a stock biomass decreases below MSY, even when above MSST.**

MR. RINDONE: Doug, can you fill in the blanks here?

MR. GREGORY: Decreases below MSY, even when above the 50 percent level of MSST. That needs to be cleaned up, because I don't think this is the case when we have one minus M MSST, and I don't -- **The only time we have 75 percent of MSST is when we have a joint stock with the South Atlantic, and so we could probably add that, but the main concern I have is with the 50 percent level, and so I'm saying the SSC is discussing potential needs to increase the ABC buffer as the stock biomass decreases below MSY, even when above the 50 percent level of MSST.**

Again, I would welcome any wordsmithing, if I get a second. It's not a recommendation to the council, but just to get them to start thinking about this and discussing it and asking questions of Jim, our presenter, of why would you want to do this. I mean, Luiz raised that question very well, and I can see the council saying why do this, and we don't have to, and Magnuson doesn't make us do this, but we need to explain to them that the stock is at a greater risk the more below MSY that it goes. There is a greater risk of collapse.

CHAIRMAN NANCE: Do we need to have MSY or MSY proxy?

MR. GREGORY: Sure. To me, it's all the same. It's a concept thing.

CHAIRMAN NANCE: Okay. Jessica, could you put "or MSY proxy", please, after "MSY"? Thank you. **The motion, as proposed by Doug, is the SSC is discussing potential needs to increase the ABC buffer as the stock biomass decreases below MSY or MSY proxy, even when above the 50 percent level of MSST.** Do we have a second for that motion?

DR. BARBIERI: Yes, Mr. Chairman. I will second for discussion.

CHAIRMAN NANCE: Okay. Luiz seconds. Any discussion? Trevor.

MR. MONCRIEF: I mean, I'm trying to think about it in general, but would this be something where it state that the SSC recognizes the importance of having the potential to increase the ABC buffer? It's just for discussion purposes, and I'm not sure what the motion actually reads out to, but, to me, essentially, the only thing we're doing is stating that we recognize that this is a discussion that needs to move forward, and we recognize its importance to the work that is being undertaken by the group.

MR. GREGORY: Again, I accept any suggested changes that make people more comfortable. Hey, I grew up on a shrimp boat, and English is not my first language.

CHAIRMAN NANCE: Trevor, do you want to wordsmith?

MR. MONCRIEF: Yes, and so I would say the SSC recognizes the importance of the potential to increase, and so take out "needs", because that's kind of what we're getting to with this discussion, right, is just essentially stating that we recognize this as a matter of importance that needs to continue to be discussed, and is that what I'm kind of getting from the conversation, or the discussion?

MR. GREGORY: I like it.

CHAIRMAN NANCE: Jason.

MR. ADRIANCE: I still feel like there needs to be some ask here, and I feel like all of this is covered in the discussion we're having, but what is the ask here? Are we trying to get at asking the council that, well, we see that importance, but what are you comfortable with? I don't know, and I just feel like there needs to be an ask here, other than the record of the discussion and stating that in a motion.

MR. GREGORY: Jason, if it read "The SSC wants the council to recognize", is that an ask?

MR. ADRIANCE: That would be an ask.

CHAIRMAN NANCE: Let's get Tom's feeling.

DR. FRAZER: I don't think there's a problem with the ask here, right, and, again, what I would just encourage folks to do is to be -- To put yourself in a position to explain to the council why you might impose a buffer to account, and specifically for the scientific uncertainty, but I think I would also be prepared to explain to the council the potential consequences, right, of, you

know, adhering to a management practice that keeps you extremely close to that ABC, right?

Again, I think what you're saying, Doug, is, hey, there's a lot of things that are going on out there, and there's a lot of uncertainty, and you should be aware of your actions and their potential implications for the health or wellbeing of the stock down the road, but that, to me, that's a management and risk decision, and I am just trying to make sure that this body clearly delineates too that there's a need for that discussion and an interaction between the SSC and the council, with regard to management uncertainty and risk, and I would encourage that, but, you know, make sure where everybody stays in their lane.

CHAIRMAN NANCE: I'm looking at this, and it's simply making the council aware that we as an SSC recognize the importance of potentially to increase the ABC buffer as we move below MSY, because the risk is compounded. I don't know how you say that, and I don't want to be defensive, and I think a lot of the council members know this, and I'm not sure how to say that without making them feel like we're coming after them type of thing.

MR. GREGORY: Well, if I may?

CHAIRMAN NANCE: You bet. Go ahead, Doug.

MR. GREGORY: I tend to be more blunt than most of you all, and I would basically tell the council, like I said this morning, that, until the Magnuson Act came along, overfishing and overfished was anything that was below MSY, in the literature, and there was great concern, in the scientific literature, that, if you're fishing below MSY, you're at risk of stock collapse, and so MSY is at a level of a population, in theory, that is one-half the size of a virgin population, and so, if you're at 50 percent of BMSY, you have fished the population down to one-quarter, 25 percent, of the virgin population, and therein lies the risk of potential collapse.

Whether it's right or wrong that Magnuson went down to 50 percent, or allowed it, and I think that was based on influence from the North Pacific Council, which has much stronger monitoring of the stocks, over many, many years, prior to the Magnuson Act, and so, if people are uncomfortable with it, we don't have to go forward with it, and I just think it's time to start that conversation.

CHAIRMAN NANCE: I appreciate that. Will.

MR. GREGORY: One more thing, if I may.

CHAIRMAN NANCE: Go ahead.

MR. GREGORY: We're fishing at MFMT, and so the stock should not be going down like that, but what we're seeing, in our stock assessments, and gag is a premier example, and red grouper with red tide, but the populations are being influenced by factors outside the control of management, and so it's not unlikely that we could have a population that's healthy in this stock assessment and then overfished in the next stock assessment, and that's due to climate change, or environmental change, and gag is kind of a bigger example of that, because we changed other things, other parameters of the assessment, and that's where the uncertainty comes in, and the variability, between assessment to assessment, and I don't think it's the data, and it's not anything more structural than that, and it's the environment.

CHAIRMAN NANCE: Okay. Thank you, Doug. Will.

DR. PATTERSON: My thoughts on this are it's an important issue, and it's one that Shannon had prominently in the presentation that she gave earlier, and it's come up in our discussions here, in various ways, and I just don't see the value in telling the council that we recognize this issue, or we've discussed it, as a motion.

I think all of that can be important components of the text of the report from this meeting, because this is an important consideration that we have discussed, but, unless we're actually recommending that something be done at this stage, that we recommend the council revisit the ABC Control Rule in this way, then I'm not sure of the value of the motion.

CHAIRMAN NANCE: Thank you. Harry.

MR. BLANCHET: Thank you. This goes back to -- So the council's minimum stock size thresholds were informed by the analysis that was done by the Southeast Science Center, and that -- Essentially, one of the concerns, that as I understand the council's concern, is that you've got variation, as Doug said, related to non-fishing parameters going on in a stock, and, if you are addressing those non-fishing parameters by adjusting the fishing mortality rates, you end up with a more variable fishing rate, year to year, than you would otherwise.

Maybe I am oversimplifying that, but, to me, the primary benefit of increasing your spawning stock biomass is that you have more fish in the water, so that that harvest at that same fishing mortality rate gives you a higher harvest, overall, and I said that this morning, and I think that we need to do a better job of

supporting increased biomass in the water, in terms of how does this benefit fisheries, how does this increase harvest, how does this increase availability, how does it -- All of those kinds of things that are net positives, as you get to MSY and levels above MSY.

I don't have an issue with a stock if it is below MSY. I do have an issue when it gets to levels that are -- Well, at 50 percent, and I do have an issue with that, primarily because, as you say, now you're talking about things that Gabriel et al., and all of those folks, have talked about, and you've got measurable risk of depleting the recruitment, and that's where I see some issues coming out, and, before that, you've got growth overfishing going on, and those are the kinds of issues that go away when you have higher stock sizes, and I think that, if we talk about it in those terms, the benefits of increasing stock size, rather than talking about so much the hypothetical negatives of decreasing stock size, I think we get further. Thank you, sir.

CHAIRMAN NANCE: Thank you. The way I'm looking at this is, while I appreciate and understand what we're trying to convey here, as we -- For each stock that we are recommending an ABC buffer for, I think that the amount of buffer can be discussed during that presentation to the council, so that -- I mean, we did that, I think last time, on red snapper, in a way, where we came up with larger buffers for ABC than some, and those types of things, because of the uncertainty surrounding that.

As the stock gets below a certain level, we need to be making sure that the buffer for ABC is increased, to take that into account, and I think that can be discussed in association with when we present that, as opposed to an individual motion here, and that's my opinion. Luiz, please.

DR. BARBIERI: Well, thank you, Mr. Chairman, and, to that point, Doug, I understand your intent here, and this is something that, you know, we said, well, this needs to be discussed with the council, and I don't know if we are ready for that yet. If we make this motion now, Jim would go in, at the June council meeting, and give a presentation to the council that discusses this, because we just started revisiting this ABC Control Rule process today.

Now we're still in the very early stages, and I think that this would require an actual presentation and formally prepare for the council, that it walks them through all of this in more detail and that explains to them, right, all the pros and cons of this, because, otherwise, you know, they are going to be feeling -- Receiving this, and it's like we determine -- We are the policy

makers, and we've been assigned with managing the stock, and we, you know, do not want to give up this responsibility, and that risk assessment, or, I mean, the risk tolerance for how the stock is to be managed really belongs with the council.

We can advise them on this, and give them some advice that we feel like, listen, you are likely to have better outcomes, if you actually go this way, but not sound prescriptive, and so developing a presentation to have this discussion with them I think will take some time putting together, I think.

CHAIRMAN NANCE: Thank you. Tom, please.

DR. FRAZER: I just want to follow-up a little bit on Luiz's comments, right, and, I mean, I think the discussion I've heard today -- I have really enjoyed it, and I think you need to make some progress on revising the ABC Control Rule to recognize and acknowledge that there's a great deal of scientific uncertainty, and that needs to be communicated to the council.

I think that the council recognizes, right, that there is management uncertainty, and there is environmental variations that affect the status of the stock in any given year, and I think, as Jim pointed out too, part of the reason that the council went to the 50 percent MSST was to avoid this issue of getting into constant rebuilding plans, right, and to put some stability into the process, from a management perspective, but Shannon also made a good point, right, in that, after that amendment moved forward, there was a recognition that, you know, natural variability alone normally wouldn't drive the MSST much below 75 percent, right, and so you have to have pretty significant fishing pressure to get to that 50 percent level.

I think, as you talk about the ABC, and the need for buffers, that's part of a relevant discussion that should come up, right, any time you're giving management advice, and so I'm not sure if I -- I understand where Doug is coming from, and he has many, many years of experience, and I just don't know if this particular motion gets us anywhere, and I think it just should be part of the fabric of the discussion that we have whenever we're talking about ABC, and so just some thoughts.

CHAIRMAN NANCE: Thank you. Any discussion from SSC members? Luiz, please.

DR. BARBIERI: Well, let me just -- Doug, after all this input, how do you feel about this, because, I mean, the idea here is we're not trying to talk against the intent of this motion that you made,

but we're just not sure if the timing is right for this to proceed as-is right now, and how do you feel about that?

MR. GREGORY: I don't disagree. The North Pacific has been using this approach since day-one, I believe, and I don't know what other councils do, and it's just basic understanding of population dynamics, and we haven't had to deal with it, and it has taken time to get to this point, since the council changed MSST, but whatever the group feels comfortable with. I don't mind withdrawing it, and it will certainly be part of the presentation to the council that we discussed it, and so that's a step in the right direction.

This really -- Like I said this morning, this is not scientific uncertainty, and this is -- It has to do more with stock resiliency, and it's not the risk of -- **It's not management risk either, and so, yes, I agree that it's a complex issue for something that's a bit different than what the Magnuson Act has indoctrinated us into believing all these years, and so, if you don't mind, Luiz, I don't mind withdrawing the motion.**

DR. BARBIERI: Personally, Doug, that would be my preference, and, I mean, I think we can revisit it at a later date, after we have a little more discussion about the ABC Control Rule, if you don't mind.

MR. GREGORY: That's good with me.

CHAIRMAN NANCE: Thank you. It did provide, in itself, provide a good discussion, and so thank you for making that. Any other items we want from an ABC Control Rule standpoint that we should discuss, or would like to discuss? Ryan.

MR. RINDONE: Thanks, Mr. Chair, and so we have some time carved out in the July agenda to talk about this more, and do you guys want to maintain that time to talk a little bit more about some of these other items that we kind of got discussions going on today, with the understanding that we won't have another presentation from the Science Center until September?

CHAIRMAN NANCE: I think what I would like is if we can have some -- I don't know how to, but material brought that we can discuss, and sometimes I have a hard time, you know, if we're just subjectively looking at all these different things, to be able to control that discussion, but, if there are specific things, like tiers, if we could have some type of what do we want to discuss on tiers, what do we want to discuss on different aspects, to bring some material where we could actually have discussions on it and

points of reference where we can do that, and I think that would be beneficial, but to just simply look at a graph and then kind of say what do we want to do with these numbers, it's difficult to be able to give direction to that discussion.

MR. RINDONE: Okay, and we could also try and bring something as it relates to the current buffers between the OFL and the ABC and then the catch variability that we talked about earlier as well.

CHAIRMAN NANCE: If there are specific things on tiers that we can outline to have discussions on, and maybe Luiz and I and Ryan can maybe talk about that, but so that there are specific things where we can discuss.

DR. BARBIERI: Right, and we could, if we have time today, and we have over an hour today, but that doesn't mean that we cannot start lining up some points, right, with these tiers, and I think all of us -- Sean made a statement that reflected the way that I was feeling about this, that our Tier 1 is too broad now, right, because this is going to be applied really to all the stocks that are assessed using quantitative assessment models, right, and we have a range there of stocks that we feel differently about --

CHAIRMAN NANCE: Is that where that spreadsheet --

DR. BARBIERI: I don't know, and maybe we could start by looking at that spreadsheet, but what Sean said is that he feels differently about the amount of uncertainty that could be reflected in an assessment for vermilion snapper versus king mackerel versus greater amberjack, and, I mean, subjectively, subliminally, I understood what he meant, because I feel the same way about those stocks, and it's just difficult to articulate what are the factors, or the attributes, of those stocks that make us feel differently about that.

CHAIRMAN NANCE: Doug.

MR. GREGORY: Thank you. I was wondering if we could revisit the data-poor tier and send John off to go get some landings data for us again, and we could reevaluate what we did with some of those species, and I know wenchman have come up to the council recently, and that's something to look at, and we set the ABCs for those species twelve years ago or so, and it might be time to revisit them, and we based the ABC and OFL on average landings of maybe a ten year period, or maybe less, if that's something we could do in July. Then I had a question for Ryan, and are we having a meeting on July 7 and 8, because I read somewhere where it was listed as tentative.

MR. RINDONE: It is not tentative. That's when it's going to be.

MR. GREGORY: Okay. Thank you.

MR. RINDONE: There really wasn't another option, which is why you guys didn't get a doodle poll for that, and it's busy around that time, and so those were the only viable dates, based on other obligations for council staff and the Science Center and the Southeast Regional Office, et cetera, and, with respect to wenchman, you guys will get information presented on wenchman in July that will allow you to consider different ways of setting catch limits for that stock, and, insofar as it relates to the other species for which ACLs were established based on ten-year time periods, the council has directed staff to work on a document, at some point in the future, and it's a lower priority at the moment, that would look at those stocks again, and so that would ultimately be brought back to you guys for an evaluation and recommendations for revised catch limits, but that's not quite as high on the pecking order at the moment.

CHAIRMAN NANCE: Okay, and so, for the July meeting, we've got a little time carved out to continue this discussion, and so it sounds like tiers is a topic that we're going to discuss, but we need to know where the different tiers were outlined, what's the difference between Tier 1, 2, 3, and 4, so that we can have that document available, and I don't know what it is, I guess, is my question.

DR. BARBIERI: Just to clarify, our current council-approved ABC Control Rule includes tiers and dimensions, that table, but that table really only covers Tier 1 of the council's ABC Control Rule, right, and there is other tiers that deal with other levels of data availability and analytical approaches that are used to set -- Within the document, under the Generic ACL Amendment, I think is where that document exists, and so there is a description of the whole ABC Control Rule, and so we have, for quantitatively-assessed stocks, we apply this table, the P* approach, and then there's Tier 2, and then Tier 3a and 3b, that have to do with different unassessed stocks that ABC is set based on the average catch.

MR. RINDONE: This is Item 6(d), for those looking in the briefing book.

DR. BARBIERI: In the briefing book it's there? Okay. Excellent. So this, what I'm talking about, is within now our Tier 1, and we want to separate them to apply different levels of sigma, right,

to different stocks, based on the amount of scientific uncertainty that we believe is associated with their estimates of OFL.

CHAIRMAN NANCE: So one thing I would like is, for the July meeting, we're going to go over this table, and so let's each of us familiarize ourselves, and this is 2011, it looks like, when it was developed, and so many of us were not on the SSC then, and some were, and they were younger, but they were on it, but so that we can have a discussion on the tier structure and what we want to see changed, and so it's got the condition of use, the OFL and ABC, those types of things, for each of these four tiers. Okay? Anything else, at the July meeting, that we would like to discuss? Dave, do you have anything on those things you outlined and any way, from a discussion standpoint, that we can look at those?

DR. CHAGARIS: I mean, I think we've tried to a couple of times, but we kind of keep going in different directions a little bit, and so I don't really have a good recommendation for how to move it forward. I think, if the MSE, if the management strategy evaluation, were to get started, then these discussions would have to take place before the analysis could go forward, as far as what are the alternative shapes of the control rule, but I don't know if going through that now is going to be worthwhile.

CHAIRMAN NANCE: Ryan, please.

MR. RINDONE: Thank you, Mr. Chair. With respect to the tiers, and thinking about ways to redefine Tier 1, whether it's Tier 1a, b, and c, or to just break out into new tiers entirely, or what have you, I mean, there are other things that you guys could consider, in terms of the types of data that are available, perhaps, for a stock, and I will pick on cobia as one that does not have any fishery-independent indices of relative abundance, but it does have a completed and functional stock assessment that we have used under the presumption of Tier 1 qualifications.

That might be an example of circumstance where you have a stock that you acknowledge that you don't know very much about, and that you don't have a lot of fishery-independent empirical information to validate the fishery-dependent information upon which the assessment heavily relies, and so maybe that would be a Tier 1b, or, you know, a new Tier 2 or something like that, and so you guys could consider some kind of metric like that as a way of further differentiating that top tier.

CHAIRMAN NANCE: Shannon.

DR. CALAY: Thank you. What Ryan proposed is essentially the way

we set up the Caribbean control rule, by data availability and quality, and so Tier 1 is for the cases where all of the data that are needed for a stock assessment would be well quantified, and then, as we go down and increase the sigma min, that's for assessments where we had to make stronger assumptions, essentially, or where important inputs were poorly known, and so that's exactly -- I think that's a productive way of doing it, what Ryan suggested.

CHAIRMAN NANCE: Do we have that, the tier structure, for the Caribbean?

DR. CALAY: I do, but recall that Caribbean assessments are very simple. They have removals and length composition, essentially, and maybe an index, and that's it, and so you probably want to think of a more comprehensive --

CHAIRMAN NANCE: Okay. Sure. I just wanted to --

DR. CALAY: I can send Ryan the Caribbean control rule.

CHAIRMAN NANCE: John.

MR. MARESKA: I just had to ask Shannon, and where did you get those sigma min values from?

DR. CALAY: In the Caribbean, we made essentially the same series of presentations, and they decided that, even in their most data-rich condition, their assessments are data moderate, and so they chose to use a sigma min of 0.5 for their Tier 1, but they have no Tier 1 assessments at the moment, and so they are only using Tiers 2, 3, and 4, or they're really only using 3 and 4 at the moment, and so they're using sigma min I think equal to one.

CHAIRMAN NANCE: Thank you. Harry.

MR. BLANCHET: Thank you. Right now, our tiers and dimensions basically are working at how do we -- At least for our Tier 1, we're estimating a P*, and, to me, if we are basically using those same types of evaluations, and so to check a box of how good is the quality of the information and the assessment, then we are capturing that same information when we assign a sigma to it, and so is there any reason that we just can't put the P* as 0.5 and leave it there and just capture that uncertainty in a single parameter, instead of using two?

CHAIRMAN NANCE: Shannon, please.

DR. CALAY: A P* of 0.5 is no buffer, no matter how wide the PDF is, but we did tell the Caribbean Council that they could essentially -- The council could determine the P* value to use, as long as the SSC set some boundaries, and so the SSC said you could consider P* values from 0.4 to 0.45, and I think that the Caribbean Council did agree to select from that range, but I think they most commonly use 0.4 and stick with it, which the Science Center is comfortable with.

I do understand that that wasn't an approach when we made the Gulf control rule, but, in reality, with the very narrow buffers that we have frequently had in the Gulf, trying to focus on the tiers and dimensions table and determine whether the P* is 0.4 or 0.43 or 0.45 hasn't really influenced the size of the buffers much at all, and so I think we would be very happy -- We would be content if the council selected a rational P*, perhaps something along the lines of 0.4, and we concentrated on establishing the appropriate sigma min. That appears satisfactory to the Science Center.

MR. BLANCHET: I am trying to understand why the sigma min, of itself, does not capture that buffer.

DR. CALAY: The sigma min just determines the width of the PDF, and so the 50th percentile of that PDF is always OFL.

MR. BLANCHET: It's still OFL. Okay.

DR. CALAY: Right.

MR. BLANCHET: Thank you. That explains it perfectly. That's what I was missing.

CHAIRMAN NANCE: Luiz.

DR. BARBIERI: So thinking about it, those of us who were last week at the SEDAR 74 data workshop, we got a demonstration of some of those sometimes limitations in the data inputs that go into the assessment, and so I'm thinking that we could think about criteria of number of fixed parameters that are going into the assessment, so that we choose those parameters based on expert judgement, and we input them as fixed parameters into the model, and then the number of imputed CVs, for example, for different data series.

You may remember, right, that, during some of the presentations of the different working groups, CVs were presented and put there for the different landings, for example, data series, and those numbers were not -- Those CVs were not quantitatively derived, right, and they were based on expert judgement, and I am not saying that they

are not scientific, and it still was scientists thinking about it, but those were not really clearly representative of the amount of uncertainty, right?

Another issue that we have had in the past with CVs is, especially for the recreational landings, that we had to constrain the CVs that were used, because models would not converge, if they had to find a viable solution there, if you gave it too much space there, in terms of the landings, the variability in landings, and so, even though we knew that the PSE for that data series, from the MRIP survey -- For example, there are assessments, and I know, in the South Atlantic, I have seen several, where the CVs were constrained to be just 5 percent, because, otherwise, there wouldn't be model convergence.

I can understand that as a practical solution, but, of course, that is underestimating the true uncertainty in that data series, and so I'm thinking about those kinds of things that we could go through.

CHAIRMAN NANCE: Okay. Any other discussion? Dr. Calay is here today, and this is our opportunity. Personally, I'm glad you're here, Shannon. It's been -- I think you've helped tremendously in our discussions today. Any other items on the ABC Control Rule? This is our opportunity to bring those up now or for our July discussion. Okay.

DR. BARBIERI: I think this would be a question for Sub-Committee Chairman Patterson, whatever his sub-committee is going to bring back in July as a little summary presentation, if he could respond to that.

CHAIRMAN NANCE: He's already gone home. Okay. Let's go ahead then -- It looks like we may get out a teeny bit early today, but we're now going to go into our public comment period, and so do we have any individuals that would like to make public comment right now? Mr. Drexler, it's nice to have you on. We'll go ahead and turn the time over to you.

PUBLIC COMMENT

MR. MICHAEL DREXLER: Thank you, Chair. Sorry that I couldn't make it today, but I really appreciate the SSC's work on all of this. I view this as the single most important issue the SSC can tackle, and, during the meeting, Doug didn't want to hand out indictments, but I will.

It's easy to get lost in the technical details of sigma and

uncertainty. However, the fact of the matter is that we've been managing our stocks with an unrealistic certainty of catch advice, and management policies set to maximum risk, and the results I think speak for themselves. We're in trouble.

Gag, cobia, triggerfish, amberjack, and probably some others, are all blinking bright red. The outlook for fishermen is pretty grim, unless you only target red snapper, and so the situation we're in is going to impact a lot of people, and we can't keep what we're doing, and so I think it's important to keep that context in sight when we do this, and you can boil down the entire MSA and council process into a single target, and it's to achieve OY, which is defined in NS 1 as a long-term average amount of desired yield from a stock, and I would argue that we're a long way from that target, with the current state of our stocks, and so this is uber important.

I won't belabor you on the point that I was going to make, regarding the points of historical error, and it seems like the SSC agrees, and I would just say that it's not all environment, and there are data issues too, and that point was made, but, in some cases, I think we're lying to our models a little bit about what we know, for good reasons, but, back in September of 2019, I compiled projections for all of the SEDARs and did an overlay over a five-year window and presented that to -- It's in the September 2019 briefing book, which is basically a simply overlay of combined historical uncertainty.

I found differences of around 25 to 50 percent were common, and as high as 200 percent, which aligns closer to a sigma of 0.5, the table that Shannon presented. You need to subtract that management uncertainty component of that, but it's clear that we're missing the mark with respect to uncertainty and buffers.

One aspect that wasn't discussed is the uncertainty with respect to time over the projection window, which we know increases as the assessment ages, and I think, and please correct me if I'm wrong, but we currently treat each year in the projection as equally certain, and I think everyone recognizes that isn't true.

I did some work with Mike Murphy on these historical retrospective peels, and this pattern is clear, that uncertainty increases with the projections, and so I would encourage the SSC to explore those aspects as well, and, to that end, the Pacific Council applies a ramp for penalty uncertainty as those projections age, and so that's something to think about there, with some precedent, but thanks again, and I'm looking forward to engaging on the issue.

CHAIRMAN NANCE: Thank you for those comments. Any comments from the SSC? Thanks for being on the webinar today, Michael. Bob Zales, please.

MR. BOB ZALES, II: Thank you, all, for doing this, and I have just got a couple of suggestions. Number one, ever since I've been involved in this stuff, every so many years, we change the parameters for determining stock status and overfished and the whole bit, and, I mean, we go from SPR, and now we're into something else, and now you're looking at another way to do this, and my suggestion would be, or one of them, is it's going to be tough for Jim to talk to the council about this and get them to understand what you're doing and why and so on and so forth.

Then, once you get past them, to the stakeholders like me, and it's going to be even tougher to try to have them understand how it is that you're going to be recommending more conservative management on fisheries that they've been used to catching, and now they're going to be able to harvest even less.

When it comes to ABCs and any discussions about buffers for ABCs, and I didn't hear anything about the ACL or the ACT, and so I'm assuming that this would be the buffer between ABC and OFL, and, if that's the case, as everybody knows, once you all recommend an ABC, the council can do anything below that recommendation, but they can't do anything above it, and so it might be that, if you're going to be recommending buffers there, that you might give a small range of ABCs to the council, to give them the flexibility to determine if they want to go with those buffers or if they're going to play with buffers between the ABC and the ACL, and that might make it easier for them to understand what you're doing and how you're doing it, so you can address that buffer the next time that the assessment comes up, and so that's pretty much it for me right now.

CHAIRMAN NANCE: Thank you very much, Bob, for those comments. Any comments from the SSC to Bob? Thank you. Any other public comment? We certainly appreciate all those that were online today, and I appreciate everyone here for the SSC, and I thought we had great discussions, and I appreciate being able to have those today. It's nice to be able to see people, and I think that certainly helps, but we'll go ahead and adjourn the SSC meeting for today, and we'll be back at 9:00 a.m. tomorrow morning, and I think the first item on the agenda is shrimp.

It's Item Number VIII, Update on Royal Red Shrimp Landings and Market Information, Gulf Shrimp Permits, and Economic Returns Estimates for Permitted Vessels, and Dr. Mike Travis will be

presenting that, and so we'll see you tomorrow at 9:00. Thank you.

(Whereupon, the meeting recessed on May 10, 2022.)

- - -

May 11, 2022

WEDNESDAY MORNING SESSION

- - -

The Meeting of the Gulf of Mexico Fishery Management Council Standing and Special Reef Fish, Special Socioeconomic & Special Shrimp Scientific and Statistical Committees reconvened on Wednesday morning, May 11, 2022, and was called to order by Chairman Jim Nance.

CHAIRMAN NANCE: We're on Item Number VII, and we have Dr. Mike Travis, who is going to give us a presentation, and I'm going to have Ryan go through the scope of work first, and then we'll turn it over to Dr. Travis.

UPDATE ON ROYAL RED SHRIMP LANDINGS AND MARKET INFORMATION, GULF SHRIMP

MR. RINDONE: Thank you, Mr. Chair. This was requested by the SSC for the updated economic information and everything else, and so Dr. Travis is with us today remotely, and he's going to present the updated royal red shrimp landings and market information, and he's going to talk to you guys about the current Gulf of Mexico shrimp permits and economic return estimates for permitted vessels, and so you guys should ask questions of him, as you feel appropriate, and this is largely information only, but, if there's any recommendations that you guys want to pass along to the council, please do so.

CHAIRMAN NANCE: Thank you. Dr. Travis, we're glad you're with us, on voice, and we'll turn the time over to you.

DR. MIKE TRAVIS: Thanks, Jim and Ryan. I appreciate that, and I just want to apologize to the SSC for not being there in person. I had hoped to be there in person to do this presentation, but, unfortunately, some health issues intervened and prevented me from being there in person, and so hopefully this will all go smoothly, even though I'm still in the middle of consuming caffeine, and so hopefully I will be coherent.

As Ryan said, I'm basically going to be covering three topics, the first one being information related to the royal red shrimp fishery, the second one looking at the Gulf of Mexico shrimp moratorium permits, in terms of valid permits versus active permits, and then, also, looking at some recently compiled information on the economic return estimates for permitted vessels in the Gulf shrimp fishery.

The issue of the royal red shrimp fishery in the Gulf was raised by the Shrimp AP about a year ago, and there have been concerns expressed about what's been going on with that fishery, and, as you can somewhat see from this slide, this fishery, in terms of production, peaked around the mid-1990s to around 2000, and it's been on a steady decline ever since, and so that has been an issue of some concern to participants in the fishery, and they have speculated on some of the reasons for that, which they asked me to investigate, and I will get to that in a moment.

One thing to point out, with regard to this particular fishery, is this is the one shrimp species in the Southeast that actually has -- I'm sorry, and I should say in the Gulf, but that actually has an ACL, and its ACL is set to 337,000 pounds, and it also has an accountability measure, and that is because royal reds are not an annual crop species, and so it does not fall under the annual crop species exemptions for ACL and AM requirements under Magnuson, and so it's a longer-lived species, which makes it a little different than the penaeid species of whites, browns, and pinks, primarily.

One of the issues with this fishery that we've started to encounter with increasing frequency, unfortunately, is, as production has gone down, participation by vessels and dealers has also gone down, and that has caused certain years of data to become confidential, meaning we cannot provide the landings information to the council, the SSC, and the public more generally, and it's not an ideal situation, and so, nonetheless, what we did in this particular slide was we tried to fill in the gaps for the confidential information, to still give you, you know, some sense of what's been happening with production in the fishery, and I still think it's pretty clear, from this graph, that, from its peak in the mid-1990s, it has been on a steady decline for basically the past twenty-plus years now, and so a few points before I go on to the next slide.

This particular fishery is prosecuted in very deep water, typically at least a thousand feet in depth, usually in the northeastern Gulf of Mexico. Because it's in very deep water, it's also prosecuted pretty far out from land, and so that tends to make it

a more costly fishery to prosecute, because, obviously, you're spending more money on fuel, and fuel is the number-one expense when it comes to the shrimp fishery, and so definitely it's much more expensive than, you know, fishing for penaeids.

The other part of is that the gear that they have to use, because it's at such greater depths, is also different, and it's also more expensive, again making it more costly to prosecute, and so it's -- I guess you would say it's a riskier fishery to participate in. Just, in general, it's -- Even when it was at its peak, typically, royal reds only represent about 1 percent of total shrimp production in the Gulf.

One kind of side issue that the AP had raised that I investigated was there was some concern that our previous landings estimates were not inclusive of all landings coming from the Gulf, and there was some concern that some of the royal red shrimp landings from the Gulf were being landed at Atlantic ports, constituting a leakage from the fishery, so to speak, and I investigated that, looking at the data from the Atlantic from 2015 to 2019, and what we found is that, in total, from 2015 to 2017, there was less than 3,400 pounds of royal red shrimp that came from the Gulf, but were landed at Atlantic ports, and there were none in 2018 and 2019, and so the leakage from the Gulf, so to speak, is actually pretty small, and I don't see that as a concern, with respect to the landings we had reported historically.

Now, going back to the confidentiality issue, this is, again, illustrated in this table on this slide, and it also shows that, you know, participation has been pretty low in recent years, and, even historically, we typically had maybe around twelve to fifteen vessels, at most, participating in this fishery, but it has definitely gone down, from six vessels in 2015 to three vessels in 2019.

Dealers, similarly, the number of dealers purchasing royal reds in the Gulf also has gone down, and, getting specifically at one of the main concerns of the fishermen, is what's been going on with their prices, and so, in general, royal reds tend to get a much higher price per pound than the penaeids do, which is good, since it's a higher-cost fishery to prosecute.

Again, I can't give you some of the price information for certain years, because it's confidential, but what you can see, in looking at both the heads-on average price and the heads-off average price, is -- These are inflation-adjusted numbers, but you're talking about a heads-on price of $4.09 a pound and a heads-off price of $7.37 a pound, back to 2015, and declining in 2017 a little bit,

but, by the time you get to 2020, now the price is down to $3.50 heads-on and $6.30 heads-off, and so that's a decline of about 14.4 percent over that time period.

Again, you know, knowing that this is a high-cost fishery to prosecute, price declines are clearly going to reduce your profit margin, and so this is the concern of the fishery, and they basically pointed me in the right direction of what the cause was, and we'll get to that next, but I do want to stop there, just for a minute, and see if anybody has any questions to this point.

CHAIRMAN NANCE: Any questions for Mike up to this point? Jack.

DR. ISAACS: Mike, are those the same vessels that are participating in this fishery from year to year?

DR. TRAVIS: Yes, and it's -- I mean, historically, there have been a few boats that have kind of bounced in and out, depending on how the economic conditions are, but it's typically, you know, a core group of vessels, primarily in the northeastern Gulf, that have prosecuted this fishery over the years. In fact, there are a couple of family operations that have been predominant in the fishery, but even some of them have dropped out at this point.

CHAIRMAN NANCE: Thank you. David.

DR. GRIFFITH: I was just wondering, and thank you, Mr. Chair, but do they catch the annual catch limit every year?

DR. TRAVIS: No, and, if you go back one slide --

CHAIRMAN NANCE: Go back to the graph. There it is right there.

DR. TRAVIS: Your ACL is up there where the orange line is, at the top, and so that's your 337,000 pounds, and so they were right at ACL, and, Jim, I think that was 1995, but I'm not sure of that.

CHAIRMAN NANCE: It was around there, for sure.

DR. TRAVIS: Yes, and then they came close again, and it was either 2000 or 2001, but, since then, they are nowhere near that ACL.

CHAIRMAN NANCE: Rich.

DR. WOODWARD: Hi, Mike. A quick question. For reference, the price of the other shrimp species, can you give me sort of rough values for those prices on price per pound, and, also, have they tracked similarly?

DR. TRAVIS: The first part, I can ballpark, and, typically -- Actually, can you move forward a slide again? I'm sorry. Yes, and I would say, in general, penaeids, just ballpark, maybe around two-thirds of the price of the royal red shrimp, and then, in terms of the trend, that I would need to research, and I don't want to talk off the top of my head specific to a particular period of years, in terms of what they have been doing, and sorry that I did not compile that information for this presentation, but I can look at that, if folks would like me to.

CHAIRMAN NANCE: I know most of the penaeids have gone up during that -- White shrimp, I think, in the late 1990s, were really -- There was a lot of catch of white shrimp and things, and so royal reds is a lot different than what the penaeid is being prosecuted at.

DR. TRAVIS: I will make one comment, Rich, just to provide some context, and that is that the penaeids -- They saw major price declines in the 2000s, and that is when imports of shrimp that would directly compete with the penaeids really ramped up considerably, and it did affect the prices considerably.

2009, if I recall correctly, was the worst year, and I think that was the bottom point, and it got -- Jack may be able to speak to this, but it got to the point where I know, in Louisiana, there were industry folks actually at the capitol, in Baton Rouge, protesting the low shrimp prices in that year, because it got so bad, but I think, for penaeids, it's been a little bit different since then. I think it's been more up and down and not a steady decline, like we've seen with royal reds, and I'm going to get to the reason why that is.

CHAIRMAN NANCE: Okay. Don.

MR. BEHRINGER: Looking at that prior slide, and the data, it appears that, you know, most of the fishery sort of was abandoned at its peak in landings, in sort of the early 2000s, and then that sort of blip that appears later on, between about 2005 and 2010, could -- I mean, it appears that it's largely driven sort of by the economics of capturing these shrimp and not probably anything to do with particularly with the shrimp, like disease or any reason the shrimp might not be -- You know, have recruitment failure or something like that, and is that your feeling? I mean, have you had any information from the fishermen that left that fishery, in the early 2000s, as to why they left?

DR. TRAVIS: I do not, and that would be a good project for someone

to work on, but I would tend to largely agree. I am not aware of any biological information, and, you know, Jim and Benny should feel free to jump in here, but I'm not aware of anything that suggests that we have a biological problem here.

In the slides to come, I think it's going to be pretty clear that, at least in the past several years, what we have is an economic problem. It's just that what happened to the penaeid fishery in the 2000s really didn't happen to the royal red shrimp fishery until the 2010s, but it's just a repeat of what happened before, for the penaeids, is what we're going to see.

CHAIRMAN NANCE: Cindy.

DR. GRACE-MCCASKEY: Thank you. I'm curious whether -- Do we have any information about where their participation -- If it's declining in this fishery, where has it moved to, or what other -- Is it different shrimp species, or is it entirely other fisheries?

DR. TRAVIS: These folks -- Even the folks who participate in this fishery, it's not a year-round fishery, and it's not even close to being a year-round fishery, and so, when they're not going after royal reds, they're going after penaeids.

CHAIRMAN NANCE: A lot of times, you will see, since they're penaeid fishermen also, if the penaeid crops are there, they will continue to fish with those, and this is really a difficult fishery to prosecute. You've got two drums of wire that you're laying down to be able to fish this, and so it takes, you know, thirty minutes for the trawl to come back up, those types of things, and so, when the penaeids are not available, if they're out here for royal red, they'll go out and prosecute that, and so it doesn't seem to ever have been an issue of problems with the species, and it's more of an economic issue of they're not going after them.

DR. TRAVIS: Right.

CHAIRMAN NANCE: Benny, please.

DR. GALLAWAY: Thank you, Mike. It's good to hear your voice. It's been a long time.

DR. TRAVIS: It has, Benny.

DR. GALLAWAY: I think you've already answered my question, but I assume that there is no catch rate trends, or information on catch rates, that would cause any -- That would be any cause for concern

about the status of this fishery, and it's just a small fishery that's prosecuted erratically over time, and is that correct?

DR. TRAVIS: That is a good question, and I do not have any CPUE data directly in front of me, and so I would have to pass that along to our new shrimp biologist and ask him to look at that, because I did not look at that, and that information, like I said, is not at my fingertips, but we can definitely look at that.

DR. GALLAWAY: Thank you, Mike. Jim, if somebody could compile that catch rate information, as available, after the meeting and send it out, it would be helpful. Thank you.

CHAIRMAN NANCE: Okay. Thank you, Benny. Mike.

DR. ALLEN: Thank you, Mr. Chairman. I just wondered -- The decline in the landings from 1975 to 1985 is pretty pronounced, and I just wondered if that was the fishers targeting different species, or effort going down, or it's similar to Benny's question of whether that indicated a reduction or different effort pattern.

DR. TRAVIS: That, I definitely cannot answer that, and I am not that old, and I'm not sure -- Jim, you've been around longer than I have, but I don't recall that we did any detailed analyses from back during that time period, but, if you remember something that I don't, again, please feel free to chime-in.

CHAIRMAN NANCE: Okay. Well, I started in 1983, and so toward the lower end there, but, you know, back when we were doing -- The main thing was not worrying about the low, but making sure they never reached the high, and that was the way we were prosecuting the fishery, and so I'm not sure we had the economic look at this fishery back in that timeframe.

DR. ALLEN: Okay. Fair enough. Thank you.

CHAIRMAN NANCE: Don.

MR. BEHRINGER: Thank you, Mr. Chairman. I mean, I don't know the history of the confidentiality laws, and could it be that, in that time period, at least like maybe in 1985, when it goes to zero, that if -- Like, if that had been nowadays, maybe there was only one boat that caught anything, and it would have been blank, and was there a sort of time period when that --

CHAIRMAN NANCE: I can't -- If I had the data in front of me, I could look at it, but we have the --

DR. TRAVIS: Jim, prior to the --

CHAIRMAN NANCE: It looks like, in 1986, it was thirty-six pounds caught, and so it was -- I don't have the number of vessels involved, but it probably was one, those types of things, and so I'm not sure it was -- I'm just talking off the top of my head here, but I don't know if it's -- Maybe the -- I mean, those eras there, in 1980 and 1985, brown shrimp was really going off the wall, and so you had a lot of brown shrimp capture, and so they may have moved to brown shrimp, were prosecuting it, and royal red was not the niche species that it has become, and so the price may have not been high, those types of things. Jason.

MR. SAUCIER: Thank you, Mr. Chairman. Just to ask a question on the -- So, back then, we had port samplers, right, up until the mid-2000s, or the early 2010s?

CHAIRMAN NANCE: We still have port samplers. Not as many, but, back in this time, yes, we had port samplers at every major port.

MR. SAUCIER: So none of these fishermen were reporting landings through a trip ticket system at that point in time, especially back in the 1980s, where we're talking here, and so what was the coverage back then? I wonder if that's why we see the erratic nature of the landings, is we didn't have very good coverage at some of these ports.

CHAIRMAN NANCE: No, and I don't think -- I think we had -- During this time, in the 1980s, we had very good coverage with the port agents. They were at every major port in the Gulf, and they had, within their area -- Like, for example, the Galveston port agent also did up in Houston, Kemah, down to Freeport and those types of things, and so they covered everything.

This has mainly been Alabama, is where most of this landing occurs, and there have been, over time, south Texas, and there was a royal red production in south Texas for quite a while, and they were landed in Brownsville, and there was a couple of boats down there that used to go out and do this, but that dropped off pretty quick, and it's mainly been Alabama and that area where the royal reds are prosecuted. Any other questions at this time?

DR. TRAVIS: Jim, one quick thing is the FMP wasn't even in place until 1981, if memory serves, and then it took a few more years to get the data collection requirements in place, and so I'm not sure we even know how many vessels were in the fishery prior to the data collection requirements going into place.

CHAIRMAN NANCE: I remember back that, sometimes, we had thirty or forty vessels, and then down to six, but it was averaging six during most of this period.

DR. TRAVIS: Right.

CHAIRMAN NANCE: Okay. It looks like no more questions, Mike, and we can go ahead and continue on.

DR. TRAVIS: All right, and so let's go two slides forward, please. Okay, and so here is where the industry was pointing me, not surprisingly, which is imports, and not just imports in general, but imports specifically from Argentina, and the reason being is that Argentina does have a wild-harvest red shrimp fishery, and so the thinking is that the red shrimp from Argentina have been competing directly with the royal red shrimp fishery in the Gulf.

If you look at the recent years of data, imports from Argentina in general, and this is shrimp imports, from 2015 to 2020, tripled, or almost tripled. Now, they did fall back a little in 2021, but still that's the kind of increase that we saw back in the 2000s, with the shrimp imports that appeared to more directly compete with the penaeid species.

Now, in the import data, we can distinguish between what's referred to as warm-water shrimp imports and cold-water shrimp imports, and I just want to say, right now, that that terminology is not related to the temperature of the water in which those shrimp are harvested, and so don't get hung up on that terminology, and I will get to that a little bit more, but that seems to have been an ongoing source of confusion, and so Argentina reds, and apologies to the biologists if I butchered the names, but Argentina reds, Pleoticus muelleri, we believe those directly compete with the domestic royal reds, which is Pleoticus robustus.

We also thought it would be the warm-water shrimp that would be directly competing with the imports from Argentina, and, now, during the AP meeting, we had a rather lively discussion about this, because, as you can see from the previous slide, I was focusing on warm-water shrimp, thinking, number one, that they would be the shrimp competing with our royal reds.

They are truly the vast majority of the imports, and, actually, if you could just go back to the previous slide for a minute, I do want to emphasize that, and so you can see that the vast majority of the imports are warm-water shrimp, and, you know, it's well over 90 percent are warm-water shrimp.

I think part of the confusion can be tracked back to a report that was issued by the Monterrey Bay Aquarium Seafood Watch Program in 2018 on the Argentine red shrimp fishery, and, based on my additional research since the AP meeting, I believe that report makes some incorrect statements and some invalid assumptions.

Number one, they claim that our import data identifies Argentine red shrimp in the data, and it does not. It never has. Shrimp species have never been specifically identified in our import data, as they claim, and so that was an immediate red flag that, not only were they making incorrect statements, but they were making assumptions that were probably not accurate.

They also apparently assumed that Argentinian reds are classified in the import data as cold-water shrimp, because they said that Argentinian reds were only 1.89 percent of shrimp imports from Argentina in 2017, and, well, if they're only 1.89 percent, they have to be assuming that they're cold-water shrimp, rather than warm-water shrimp.

Now, this part I'm guessing, but my thinking is that they assumed that based solely on the geographic location of the freezer trawl fishery down there, which is in the Gulf of San Jorge, and it's like 43 to 47 degrees south latitude, and so they're thinking how that's pretty far south, and it's probably cold water, and so we're going to assume these are cold-water shrimp imports.

I spoke to the Office of Science and Technology, and they looked at Customs harmonized tariff schedule documentation, and the only species that are considered cold-water shrimp in the import data are Pendalus species and Crangon Crangon, and, to be honest, I don't even know what Crangon Crangon is, but that leads one to the conclusion that Argentinian red shrimp are warm-water shrimp in the import data.

However, as we're going to see on the next slide, not all warm-water shrimp coming from Argentina are likely red shrimp, and here is the reason why, and so, prior to July of 2021, we have not been able to determine whether shrimp imports were wild-harvest shrimp or farmed shrimp, and this is an issue that we have been bringing up for years, and finally we got new HTS codes, starting in July of 2021, that allows us to distinguish farmed imported shrimp from wild-harvest imported shrimp, and so this is kind of a good breakthrough.

However, what surprised myself, and I think the industry was also surprised, based on discussions at the AP meeting, is that, at least based on the last six months of data from 2021, was a much

higher percentage of the imports coming from Argentina are farmed than we expected.

Farmed product is not going to be red shrimp. They don't farm red shrimp, and so, presumably, it would not directly compete with the royal reds, and it would be the wild harvest that would be red shrimp and would directly compete with our royal reds, and so, just looking at that table -- Granted, there's a fair amount of variability in not just the wild-harvest poundage, but also the farm-caught poundage, from month to month, but the bottom line is that over 23 percent of the imports coming from Argentina are farmed product, and no one that I have spoken to thought it would be anywhere close to that.

That little surprise caused me, and others, to kind of rethink the imports coming from Argentina, because, you know, we had thought that all of the warm-water shrimp imports were red shrimp, and that is clearly not the case, and so, you know, we thought about the possibility of maybe trying to back-estimate imports of wild-harvested reds, historically, but that's probably not a good idea, because, if aquaculture in Argentina of shrimp has been expanding, then it doesn't make any sense to do that, because, even though they may be 23-plus percent now of the imports, they likely weren't that much historically.

We don't have enough information, and we're just going to need to monitor this, you know, as more data comes in through 2022, to see if the aquaculture industry for shrimp down there -- Is that a growing industry, and I largely expect that it probably is, because that's the trend on a worldwide basis, and so, anyway, nonetheless, I think it's pretty clear that it is likely the case that the imports of Argentinian reds have increased significantly over the past several years, and that probably is a primary reason, if not the primary reason, for the decline in the royal red prices that we've seen in the last several years. I am going to stop there, again, to see if there are any questions.

CHAIRMAN NANCE: Rich.

DR. WOODWARD: Let me just make sure I've got my numbers right, and so, looking at the wild pounds on this graph, you've got -- Let's round up to fifteen million, and then, if you go back to the harvest in the Gulf, several slides back, that's at 150,000, and is that right? So we're talking a scale of a hundred that's different between those two, and, I mean, is that what I'm reading here?

DR. TRAVIS: Yes, that is what you're reading.

DR. WOODWARD: Okay, and so we're talking about the U.S. landings, the Gulf landings, are just a little bit of noise on the end of the aggregate supply.

DR. TRAVIS: Yes, and, of course, the point being is that they didn't used to be, a decade-plus ago, but clearly now they are a drop in the ocean.

DR. WOODWARD: Thank you.

CHAIRMAN NANCE: Any other questions? Jack, please.

DR. ISAACS: Mike, of course, I seem to recall that we only have the farmed and wild distinction in the import data perhaps for the last year or two, and it will be really interesting to see how a time trend unfolds as time goes by.

DR. TRAVIS: Yes, and I completely agree. We only, right now, have the last six months of 2021, and, you know, anyone who has done any kind of economic analysis on the shrimp fisheries -- You know, we all wish that we had this information twenty years ago, but that just wasn't what happened, unfortunately.

DR. ISAACS: Mike, my colleague, Dr. Miriam, just last week, was looking at some data for farmed versus wild shrimp imports, and so it will be interesting to see if her findings, for shrimp in general, line up with what you have here for the red shrimp.

DR. TRAVIS: Indeed.

DR. ISAACS: But I won't bore these people with that.

DR. TRAVIS: Okay.

CHAIRMAN NANCE: Thank you. Harry.

MR. BLANCHET: Thank you. I just did a quick search, and it seems that there is a fishery improvement plan for Argentine red shrimp offshore, and they describe their landings, in the plan, as -- Let me go back to it. The total landings of 80,000 metric tons, and estimated total fishery landings of 180,000 metric tons, as of December 2021. That's a lot of shrimp.

DR. TRAVIS: Yes, and, of course, not all of it is coming to the U.S. They export elsewhere, but my recollection is that we are the number-one destination for the Argentinian red.

MR. BLANCHET: Yes, and, I mean, that kind of -- Yes, it's a worldwide market, but those kinds of volumes is definitely going to influence your price.

DR. TRAVIS: Sure.

CHAIRMAN NANCE: Thank you. Don.

MR. BEHRINGER: Thank you, Mr. Chairman. Mike, is there any information on what the target market is once the shrimp get here? Is it mostly grocery stores, or are the royal reds -- Is that some kind of a niche market that goes to restaurants? Is there any information on that and whether that might have changed too over time? I don't know what the typical consumer -- Whether they chose a royal red over a penaeid or not, preferentially.

DR. TRAVIS: That is an excellent question, and that was discussed a little bit during the AP meeting. My sense, from them, is that it is definitely a niche market. I mean, it historically was a niche market, when, you know, it was primarily a domestic market. Heck, I remember going to a couple of restaurants in Alabama specifically to get this product, because, you know, it's very hard to find, or at least it was very hard to find, and it's a very specialized product.

Anyone who has ever had it -- It's more the size of a prawn than a penaeid shrimp, and it has a very different flavor to it. I still think it's a specialized product that goes almost entirely into restaurants, and it continues to be that way. There are a few industry folks that specifically said that they handle some of this product, and so I guess they're importers, and that they were sending the product to specific restaurants.

CHAIRMAN NANCE: Thank you. Matt.

DR. MATT FREEMAN: Just to add onto that, Mike is right, and I had asked that same question during the AP meeting, when they saw this presentation, and several of the Shrimp AP members confirmed that, that they were seeing it go to restaurants specifically.

CHAIRMAN NANCE: Thank you. Jason, please.

MR. SAUCIER: Thank you. Mike, can we track the price for the imported like we do -- Is there a way to get to that information, where we see a 14.4 percent decline in the price, the ex-vessel revenue, for our domestic shrimp, but I would be interested to see what it looks like with the wild pounds coming in, as of July of 2021, to see if there was any correlation.

DR. TRAVIS: We can, but, unfortunately, I did not, and so I will add that to my to-do list, to look at the import price for farmed versus wild-harvest.

MR. SAUCIER: I think it would just be interesting to see if that's having an impact on our price point here, because it's potentially direct competition.

DR. TRAVIS: Yes, and I wouldn't necessarily anticipate that the prices for farmed versus wild-harvest, specifically coming from Argentina, would necessarily mirror each other, and they could have different trends, because they're basically servicing different markets, and there is different buyers for that product, as we were just discussing, and so, yes, I will plan on looking at that.

CHAIRMAN NANCE: Thank you. Jack.

DR. ISAACS: Mike, it might be interesting also to look at the ports that the Argentinian product is coming into.

DR. TRAVIS: You mean the U.S. ports?

DR. ISAACS: That's right.

DR. TRAVIS: So, that, I am pretty sure, just off the top of my head, that the vast majority of that product comes into Miami. I mean, Miami is, far and away, our largest seafood imports port in the Southeast, and, in fact, it's one of the largest in the country, but I will verify that.

CHAIRMAN NANCE: Okay. Thank you, Mike. Let's go ahead and continue.

DR. TRAVIS: Okay, and so that wraps up our discussion of the royal red shrimp fishery and associated market issues, and so, here, we're getting into a topic that will come up in a framework action that we're currently working on for the council, and we discussed this with the AP, and we want to discuss it again with the SSC, and this one is a rather specific data issue.

What we have done, historically, at the council's request, is looked at the number of valid shrimp moratorium permits in a year, and also then looked at the number of active permits. Now, in this case, active means that they had at least one pound of Gulf shrimp landings, and it could only be one pound, although that would be rather unusual.

We have looked at this, historically, in previous documents, and I have updated that information here, to specifically look at 2015 to 2019, and the numbers in the first column, the number of valid permits, is based on our current official counts, which I will get to the meaning of that on the next slide, and then active permits is in the other column.

Now, in this case, the number of active permits is based only on data coming from what I will call our historic Gulf shrimp landings dataset, which means dealer reports, and dealer reports, in recent years, basically means state trip tickets.

If you go back through time, it would also refer to dealer reports that our port agents collected, and so, in this particular case, I did not make use of the landings data that we collect directly from the permit holders, and that data is not considered here, and I wanted to point that out, because the analysis that I did, actually quite some years ago now, that, when you only use the landings from the dealer reports, that could lead to an underestimate of the, quote, unquote, actual count of active permits in the fishery, and, when I last looked at this, many years ago, there was about a 4 percent differential between the number of active permits based just on the dealer reports, as opposed to the number of active permits based on dealer reports and the data directly provided by the permit holders.

Again, the 2015 to 2019 estimates are based on the Regional Office's current official approach for counting valid permits in a year, and, under that approach, a permit is counted as valid in that year as long as it was valid for at least one day. Even if it was terminated later in that same year, we consider it to be a valid permit in that year, because they could have legally fished under that permit when it was valid.

Now, in previous years, as you see in, for example, Amendments 17A and 17B, when we looked at these counts, a different method was used to look at the number of valid and active permits since the moratorium was implemented back in late 2006.

At that time, the -- What was happening is that we have a number of surveys. We have an economic survey, and we have the annual landings form survey, and a vessel and gear characterization survey, and so the Center would request, from the Permits Office, the moratorium permit data, fairly early in the following year, so that they knew who to send the surveys out to, and I want to say, generally, sometime in February, because they wanted to make sure that all the data had been compiled.

However, what they did is, when they determined that a permit had terminated at some point, prior to them sending out the survey, they kicked those permits out from consideration, and that probably led to an underestimate of the actual number of valid, and probably the actual number of active, permits, relative to the approach that we use now, and so I just wanted to make that point, because there is basically a break, and there's a change in the method from, you know, 2014 to 2015.

I will leave it to the SSC, if they want to comment on particularly what data we should be using to determine the number of active permits in the fishery, and so, specifically, is it acceptable to just use the dealer reports, or should we be using the dealer reports in combination with the data coming directly from the fishermen themselves?

Part of the reason that I bring this up is because we have seen a history of some vessel owners reporting to us that they did in fact have landings in a particular year, even though the dealer reports say otherwise, that they did not, and so I'm going to -- Again, I'm going to stop there for a minute, just to take questions and comments, and, if the SSC wishes to comment, that's fine. If not, that's fine, too.

CHAIRMAN NANCE: Okay. Trevor.

MR. MONCRIEF: I have just a couple, and so the first one was what's the process of a valid permit becoming invalid or terminated? Are they timing out, or are the permit holders not renewing? What's kind of going on there?

DR. TRAVIS: So, basically, a permit, a moratorium permit, can have three statuses. It can be valid, it can be expired, or it can be terminated, and so, once a permit -- A permit ends as of a particular date, and then, as of that date, you're supposed to renew your permit, right, and then, if you don't renew your permit, as of that particular ending date, it becomes expired, and all that means is that you can't legally fish under the permit anymore. It's not terminated yet, because we give the permit holders a year of leniency to actually renew their permit, but, if you go beyond a year after the permit expires, then it becomes terminated.

Sometimes, you know, this is just people who hold permits who have gotten out of the fishery, and they're using their boats for other purposes, or they have sold their boats, but they never transferred their permits, because these permits are transferable, but they never transferred them, and so they just go away. Does that answer

your question?

MR. MONCRIEF: Yes, it kind of does, because what I was kind of catching onto was, while the valid and active permits seem to be correlating with one another, the drivers behind the two are widely different, and so it's not necessarily like a permit becoming invalid or terminated or latent, and that's not what is driving the active permit drops. The other one I have was is there not logbook data for these vessels, as far as VMS and everything else?

DR. TRAVIS: Okay. There is that word of "logbook".

MR. MONCRIEF: I know it's a topic right now, but --

DR. TRAVIS: Yes. There is no logbook, in the typical sense of that term, like the logbooks we have for our finfish fishery, and we've never had that kind of a logbook in this fishery. You do have the so-called cellular electronic logbooks, but remember those are only on a sample of the permitted vessels, and, even at its height, it was maybe 50 percent of the fleet, and we are definitely not at 50 percent of the fleet now, and so that would probably not be a good source for determining whether a permitted vessel was active or not, but I do want to -- If you go back to the previous slide, because of something that you just said, I wanted to point out --

The numbers of valid permits has been -- It's gone down some over the last five years, but it's not a huge decrease. In the active permits, it's actually been even more stable, until that drop in 2019, and I don't know if that's a temporary drop, are we just -- You know, I don't have the -- The 2020 and 2021 data has not been compiled yet, and so I don't know if that's a temporary decline or not.

MR. MONCRIEF: All right, and so just one more follow-up, and I will be done, Mr. Chair.

CHAIRMAN NANCE: Thank you, Trevor.

MR. MONCRIEF: If you have -- Even if it's partial coverage overall, did you ever look to see if there was a vessel out, or if you had active vessels that were, you know, engaging in the process that had no landings recorded at all?

DR. TRAVIS: In other words, you're saying, if the cELB data says a boat was out there, but we look at the landings data, either from the dealer reports or from the vessel owner reports?

MR. MONCRIEF: Correct.

DR. TRAVIS: No, we have not done that. That is interesting, and I would be very surprised if we had someone showing -- You know, a vessel showing up in the ELB data that didn't show up in either of the two sources of landings data, and that would be very strange. I'm not saying that it's not possible, but I would not anticipate that. Jim, if you have any comment on that, please feel free.

CHAIRMAN NANCE: No, but are there any other questions? I'm not sure if you looked at it, Mike, but do you have a sense for the percent of landings that don't have a recorded vessel number or those types of things?

DR. TRAVIS: Thank you, Jim, and so that, historically, has been an issue, where the vessel ID being recorded specifically in the state trip ticket data is an invalid ID, and we can't match it, and we can't validate it, and there are other times when there just isn't a vessel identifier, and it's missing.

That was, historically, a larger problem, and I want to say, in general, it's become less of an issue, and so, again, the number of active permits, regardless of which landings dataset you use, or combination you use, it's still an estimate, and partly for that reason that Jim just brought up, because, you know, we don't have complete data, when it comes to the vessel identifiers in the trip ticket data.

Jim, I want to say we were probably at about 5 percent, a decade or so ago, of the landings -- Where we couldn't match them up to a particular vessel. The last time I looked at it, I think it was down to like 1 to 2 percent of the total landings, and so I think it has improved, which is a good thing.

CHAIRMAN NANCE: That is. Absolutely. If there are no other questions, let's go ahead and move on, Mike.

DR. TRAVIS: Okay. All right. The last topic, and, in a minute here, I'm going to ask council staff to bring up a PDF document that is in the background materials, and so this is information that -- I did not compile this, and this is provided by Christopher Liese, who is one of our economists in the Science Center, and he recently provided some updated economic performance estimates for the Gulf shrimp fishery, and we were specifically looking at 2014 to 2019, and I want to specifically highlight the averages from 2015 to 2019, and, again, just to reiterate, we don't have the estimates yet for 2020 and 2021.

They're just not available yet, but our view, when you look at those years, is that the 2015 to 2019 average is indicative of current baseline economic conditions, and we don't think that 2014 is, because, as we'll see here in a minute, it's pretty clear to us that economic performance in the fishery declined after 2014. In short, 2014 was the last really good year, economically, for this fishery, and so, if council staff could bring up that PDF document, I would greatly appreciate that.

Thank you very much, and so, obviously, we're not going to go through all these numbers, but I just kind of wanted to highlight, and they are in fact highlighted, some of the key findings and why, essentially, we don't want to use 2014 as being indicative of the current -- Or at least our best estimate of the current economic baseline conditions, and so, if you would scroll down, please, and so here you go.

This indicates one of the biggest changes, and so, if you go back to 2014, the average price per pound, and this is across all shrimp landings in the Gulf, but you're talking about $5.32 a pound, and then look at what happens starting in 2015 and thereafter.

It's pretty stable after that time, but, you know, you're talking pretty much night and day, in terms of shrimp prices from 2014, when they last peaked, compared to the years thereafter, and it's a similar -- Interestingly, it's a similar trend for fuel prices, and so fuel prices were pretty high in 2014, historically speaking, and then they also dropped thereafter, but, you know, one of the things that the industry told me, many, many years ago, is one of the key indicators of how profitable, or whether they are profitable at all, is in fact the difference between the shrimp price and the fuel price, and so you're talking about a difference of $2.10, and, granted, these are different units, and I understand that, between the shrimp price and the fuel price, but, now, over the most recent five years, it's down to $1.41.

That's generally an indicator of, you know, the fishery has declined in profitability post-2014, and so economic conditions have changed considerably.

Here is another indicator, and so net cash flow, and hopefully folks have a basic understanding of what net cash flow means, but, again, you're talking about they were at just over $60,000, and this is, you know, average per vessel, and there's going to be vessels that are way above this and vessels that are way below it, but the number -- The net cash flow definitely decreased, not so much in 2015 and 2016, but definitely thereafter. Again, there's

a fair difference between 2014 and the subsequent years.

Revenue from operations, and so this is basically gross revenue. Well, it's not gross, because this is just -- I'm sorry, and it should be revenue from fishing, fishing operations, but, again, you know, 2014 is a good year, and the average was up over $400,000, but, in the years after that, the average was down to just over $315,000, and so that's a pretty -- Again, that's a pretty big decline, and then, when you look at net revenue from operations, again, around forty-grand in 2014, and, since then, just over $12,000, and, in one of those years, on average, they were in the red, and so there were a lot of boats, in that year, that were not making money, and they were losing money.

Again, I didn't go through all of these estimates, but I just wanted to highlight some of these key indicators, that economic performance in 2014 was really good, the best year that they've had in quite some time, but it has declined in the years since then, and we don't think 2014 is indicative of where the fishery is probably operating, at present, and I will stop again there, because that's the last part of my presentation, and just see if there is -- If anyone has any comments or questions.

CHAIRMAN NANCE: Okay. Thank you. Jack.

DR. ISAACS: You're right there, once again, Dr. Mike. 2013 and 2014 were unusual years, and there was like a decrease in imports, kind of coinciding with white spot disease, I believe, over in southern Asia. Imports go down, and prices went up, but that didn't last very long.

Beginning in 2013 or 2014, we started seeing an increase in shrimp imports again, notably from India, from all places, but that's a discussion for another day, I think, and imports keep going up, and price keeps going in the opposite direction, for the most part.

DR. TRAVIS: Yes, I would concur with that, and it was primarily in Thailand. Thailand, back at that time, represented about a third of all the imports coming into the U.S., and so they were number-one, by far, but, when they were hit by that -- What's that called? The early mortality syndrome, and it really hurt their farm production, and that did give our industry a reprieve, for a short period of time, but, you know, this is what we see, is you can have this happen in one country, or even two, but that so-called vacuum in the market -- It doesn't take long for other countries to compensate and ramp-up their production to cover for the loss of production in another country, and, in fact, Thailand is no longer -- I don't even think they're number-three, in terms

of imports to the U.S., because other countries, such as India, have just overtaken them, and it doesn't take a long time for the adjustment to occur.

CHAIRMAN NANCE: Thank you. I think it used to be, Mike, 80 percent import and 20 percent domestic, and is it still around that?

DR. TRAVIS: I don't think so, because domestic production, overall, thinking nationally, the whole U.S., is pretty flat, and imports have continued to go up, and, in fact, they just blew through the roof this past year, at a clip that I didn't even see back in the 2000s.

In fact, the increases were so extreme that I contacted Headquarters, and they contacted Customs, to make sure that the numbers were correct, and they confirmed that they were, and so it's -- You know, interestingly, at least through the data that I had looked at mid-year last year, the domestic shrimp prices had really maintained themselves much better than I would have expected, and just, you know, my working hypothesis is that was a function of a very strong growing economy that was just fueling demand, and inventories were short at the time, and so I'm not sure that's still the case, and it will be interesting to see what happens to prices this season.

CHAIRMAN NANCE: Okay. Jack, to that point?

DR. ISAACS: Yes, and I tend to think that imports are over 90 percent of domestic supply now, and there were some problems with how they defined domestic supply, and some of their conversion factors there need some updating, but, once again, that's a story for another day.

DR. TRAVIS: I agree, and I would say it's at least 90 percent now.

CHAIRMAN NANCE: Okay. Thank you. Trevor.

MR. MONCRIEF: I apologize if I'm somewhat ignorant on this topic, but, when I was reading through your presentation, and listening to you, I wasn't getting a clear understanding, and so I think -- I agree with what you're saying, that, you know, 2014 is not comparable to 2015 and 2019, but I'm unsure on the application here. Are you trying to establish a baseline to also look into 2020 or 2021, since they're not available, or is this just essentially making a statement that 2015 to 2019 is baseline, because I think we hit a big old fat reset button in 2020, with

everything that happened.

DR. TRAVIS: Yes, and that's a valid point, Trevor, and I wish we were in a position to answer it, but, you know, whenever we work on a regulatory amendment, plan amendment in general, just a regulatory analysis, we need to establish the baseline economic conditions, to the best of our ability, and, given the data that we have now, we think the 2015 to 2019 is more indicative of economic conditions in the fishery than 2014 is, and when -- Now, Matt can correct me if I'm wrong, but my recollection, from the AP discussion, is that the industry folks agreed that 2015 to 2019 was more indicative of, you know, quote, unquote, current economic conditions, and they were okay with us using those averages, the five-year averages, from that time period as indicative for economic conditions, even with us not having all the 2020 and 2021 economic data.

DR. FREEMAN: Right, and so, as Mike said, we need the baseline information, specifically for the purpose of the economic analysis that we do in our shrimp amendments, and, yes, Mike, you remember correctly. When this got presented to the AP, they also discussed various thoughts for why 2014 was an outlier, and they concurred that that should be treated as such and not included for the baseline data.

CHAIRMAN NANCE: Don.

MR. BEHRINGER: Okay, and that kind of actually goes to my question, and so, if we went back to say 2010, from 2010 to 2014, it was similar to the way it was from 2015 to 2019, and it was just 2014 that was a strange, anomalous year, Mike?

DR. TRAVIS: So, as Jack said, things got better in 2013, but 2014 was what I would call the recent economic peak, and 2010 was definitely not a good year, and that was the year of the oil spill, and so, no, not -- I think the only way that some vessels survived in that year was because they participated in the -- What did they call that, the vessel -- We called it VOOP, and it was the vessel operating program.

SSC MEMBER: The vessels of opportunity.

CHAIRMAN NANCE: Yes, vessels of opportunity.

DR. TRAVIS: So that helped a lot of boats survive in that year, because, otherwise, they would not have made it through that year, and 2009 was a horrible year for the fishery, and so 2011 and 2012 were kind of middling, I would say, better than 2009 and 2010, and

then you had the bump-up in 2013, and then the economic peak in 2014, and then it dropped down to what we just went through since.

CHAIRMAN NANCE: Okay. Any other -- David, please.

DR. GRIFFITH: Mike, I noticed that the number of permits, from 2015 to 2019, is pretty stable, and it's gone from -- Active permits has gone from about 1,060 to 1,008, and so, over that time period, it doesn't look like there's been much -- If any of the vessels are leaving the fishery, and is that accurate? Are people staying in, even though they're making less money?

DR. TRAVIS: It's marginal, and, you know, the returns are marginal, and it's enough for them to stick with it, and not bad enough for them to get out, and so I guess you would kind of say they're hanging in there because they're making some money, even though it's not as much as they were making in 2013 and 2014. That's kind of typical.

DR. GRIFFITH: I also know that some of the Texas shrimpers are using H2 workers, mostly Mexican workers that come in with H2 visas, and is that true across the Gulf, or just with Texas? Do you know?

DR. TRAVIS: On the boats or at the processing facilities? I know that they use them in the processing facilities.

DR. GRIFFITH: Both, but on the boats, and I know the shrimpers have been using them on the boats as well.

DR. TRAVIS: We have not asked about that, and so I would hesitate to say anything, because I just don't know.

CHAIRMAN NANCE: Okay. Is there any issue with -- I know it's hard to verify, but it looks like, for their analysis, they're going to use 2015 through 2019, and I think there is pros and cons of anything, and 2014 certainly was a high year, and that was 2010, and so you've got -- As Mike was indicating, it looked like 2010 was real low, and 2013 and 2014 sounds like it was high, and these last four years, it seems like we've gone in kind of a downward -- A little downward slope here, so that 2015 is -- Well, 2019 is a lot more different than 2014.

I see where 2014 was, in some of the things, comparable with all the other years, as pounds per gallon -- They were very similar and those types of things, and so, while it looks like there are similarities, from, I guess, a profitability standpoint, 2014 was a little bit different than the other years. Any other questions

or concerns from the SSC? Dr. Travis, we appreciate your presentation, and I wish you could have been here in-person, but it's good to hear you.

DR. TRAVIS: Thank you very much. I appreciate all the feedback.

CHAIRMAN NANCE: Thank you. We'll now go ahead and have Presentation Number IX, and I think -- Skyler, are you on?

DR. SKYLER SAGARESE: Yes, I am. Can you hear me?

CHAIRMAN NANCE: Yes, we can .

DR. SAGARESE: Okay. Great.

CHAIRMAN NANCE: One of these days, you will show up here. It will be good to see you. Okay, young lady, we'll go ahead and hear your presentation.

DR. SAGARESE: All right. Let me just make sure that I'm showing my screen with the presentation. Hopefully you see my title screen now.

CHAIRMAN NANCE: Yes, we do.

REVIEW: SEFSC ANALYSIS OF RED GROUPER STOCK ASSESSMENTS USING ALTERNATIVE MARINE RECREATIONAL INFORMATION PROGRAM LANDINGS DATA

DR. SAGARESE: Okay. Great. I'm here today to follow-up with some requests, kind of going back in time with the red grouper model from SEDAR 42, and SEDAR 42 occurred in 2015, and it had a terminal year of 2013.

CHAIRMAN NANCE: Skyler, I am going to interrupt you for one second, and I apologize.

DR. SAGARESE: Sure.

CHAIRMAN NANCE: I'm going to have the scope of work, and Ryan is going to present the scope of work, and so we're kind of why we're talking about this, and I think we'll have some better context of why we're hearing this.

DR. SAGARESE: Absolutely.

MR. RINDONE: All right, and so Skyler is going to review and analysis of the SEDAR 42 and 61 stock assessments for Gulf red

grouper, including applying the MRIP-FES revised recreational landings for the private vessels to a corrected version of the SEDAR 42 base model, and this corrected version accounts for a misspecification for the virgin biomass and recruitment, and it was necessary to be able to compare what Skyler is doing here with SEDAR 42 to what was ultimately done and approved in SEDAR 61.

The result is an examination of the probable catch limits resulting from these model variants, and so you guys should examine the data and results and ask questions and make any recommendations, as appropriate.

CHAIRMAN NANCE: Thank you. Skyler, I apologize for interrupting you, and so we'll go ahead with your presentation.

DR. SAGARESE: Okay. Great. No problem at all. The context definitely helps. Okay, and so, as Ryan mentioned, this is kind of going back in time to SEDAR 42, and, when we went through the SEDAR 61 assessment, back in 2019, for red grouper, we spent a good bit of time talking about an initial fix that had to be made to that SEDAR 42 model.

With our grouper models, particularly for red grouper, we don't go back as far in time as we do with some of the other species, and so our assessment models tend to start in 1986, because that's when we have the most trust in our landings streams, and, in this case, because we know we're starting the population in a fished condition, we often have to estimate the initial condition, and so we often do that by specifying initial equilibrium catches, and we generally use the average of the first five years of data to kind of set that point.

From there, the model estimates an initial fishing mortality that gets us at that starting point, and then, from there, the model projects forward throughout the historic time series of data that we have, and so I think some of you might not have been around for SEDAR 61, and so I'm going to spend a little bit of time reviewing some of the issues that we did discuss in detail during SEDAR 61.

One of the big issues was, during that SEDAR 42 assessment, back in 2015, there were some really large changes made to the model configuration during the review workshop, one of the biggest being changing the start year of the model from 1986 to actually 1993, and that was at the request of the reviewers at the time, and so what that meant was that, overnight, basically, the assessment analyst, at the time, was kind of going back and reevaluating and re-estimating all the inputs, as well as combining the recreational charter, private, and headboat fleet into a single fleet, and so

there was, obviously, a lot of work to do in a very short amount of time.

What ended up happening is that SEDAR 42 model, that was ultimately used for the catch advice, did have an error in how those initial equilibrium catches were specified, and so the model actually was -- It was actually just the sum of those five years, and not the average, and so the model was starting from a much larger population, and it basically thought the stock was more productive.

When we went through SEDAR 61, we didn't really have -- Number one, we didn't really want to compare all the outputs and spend too much time focusing on SEDAR 42, because of this big error, as well as we didn't really have the time to go back and reevaluate some of these decisions, because, at that time, for SEDAR 61, we were the first assessment to review and use the new MRIP-FES data, and there was a lot of changing that had to be made during that model, and so we were busy, and, therefore, we didn't really spend a lot of time going back to that SEDAR 42 model and saying what would the results have been had we used the MRIP-FES data at that time, and so that's what today is about.

The first thing I want to highlight here is, for what we're going to show today, we are using that SEDAR 42 final model, but we've converted it to the Stock Synthesis 3.3, the newest version that we've been using more recently. In the assessment report for 61, we show we get the identical result, and so we're comfortable moving forward with that, and the reason why we had to transition to this version for this model is so that we can use the new, improved projection methodology that's been used for our Gulf assessments recently, the code that's been developed by Nathan Vaughan, and that's been reviewed by this SSC, I think quite frequently, in the last few months.

What I've done is, obviously, the first task was to correct the initial conditions, and so to update those initial equilibrium catches, so that we're starting from the point where we expect, and then the next step, from there, is, once we've corrected that issue, was then to incorporate the MRIP-FES data, both landings and discards, for the historic time period through 2013, and so taking that SEDAR 42 final model, fixing the initial conditions, and then adding in the new MRIP data, to see what the model results would have been.

Now, in red, I am just highlighting that, normally, before we often do projections, we would want to evaluate, thoroughly evaluate, the sensitivity, the diagnostics, and we didn't have time, for this analysis, to rerun all of that, all of those analyses for

each of these runs, and so, at this point, we're just showing two different sensitivity runs of the SEDAR 42 final model, and we're projecting them forward in time, so that we can see what the catch advice would have been at that time, had we -- Number one, had we used the MRIP-FES data, and, number two, had we implemented our improved projection methodology that we've developed since this assessment.

The take-home here is I'm just trying to compare and show that there's not a lot of changes, and there is still -- In each of these models, we had a lot of parameters that were estimated with CVs above one, and there was a lot of improvements that needed to be made to this model, which we did do during SEDAR 61. We made quite a few changes during that standard assessment that was reviewed back in 2019.

Now, comparing the results, and so, just to kind of refresh, many of you saw, have seen, some of these results from -- If you were involved in the SEDAR 61 panel, but, for some of the newer SSC members, basically, what we're going to show now is just to compare the trajectories of the major model outputs with each of those changes, and so how did the changes that we made, updating the initial conditions, as well as then adding in MRIP-FES, and how did that change some of our derived quantities.

The first we'll look at, on the left-hand side, is just the spawning stock biomass. For red grouper, we did have batch fecundity estimates, but our SSB is actually a combination of the proportion female, the proportion mature, and that batch fecundity, and so it's not an absolute number, and so what you're seeing with spawning stock biomass is just the scaled number of eggs, and it's just relative, and what we see here is that, in each of these figures, the blue will be the SEDAR 42 model, and the red will be where we updated the initial conditions, and then the green line will be where we also included the new MRIP-FES data.

The take-home, and what we discussed quite a bit during SEDAR 61, is this did have a very large impact on the model results, where you can see, on the left, that, basically, the virgin SSB is this point that's on the left-hand side of the curve, and you can see that it's much more uncertain in that SEDAR 42 model, and then, when we corrected that issue, it comes more in line, and so that starting point was really affected by that issue, the error in the initial catches.

On the right-hand side is, again, just kind of zooming-in on that, and you can see that it's much more uncertain, and there's a much

wider range for that initial model, but, once we correct it, we actually see a much narrower distribution, once we've corrected the issue, but then, when we added MRIP-FES, we also see an adjustment, where the SSB just increases a bit, and so, as a reminder, red grouper is mostly commercial, and the historic allocations, before Amendment 53, was 76 percent commercial and 24 percent recreational, and so adding, or changing, to the MRIP-FES data does have an impact on the end results, but it's not as large as some of the other stocks that are more recreationally dominant.

Looking at comparing, on the left-hand side, where we're comparing the recruitment estimates from each of those three models, there is not a big change, except for that initial point, where you can see, on the left-hand side, the SEDAR 42 model had a much larger estimate, compared to the others, and, on the right, it's just kind of that zoomed-in again, where see that SEDAR 42 model estimated about thirty-two million age-zero recruits, initially, and then we can see that, once we corrected the issue, the error, it would have been nineteen million, but then it bumped up to about twenty-four million.

The one issue, looking back, that the SEDAR 42 model -- One of the things that was discussed was it had a very high estimate of sigma-R, over one, which was really, really large, and, once that issue is corrected, we see that it comes down a bit more, and it remains constant, at about 0.8, which is still fairly high. Some of our assessments, we often fix it at 0.6, but so that was one issue that, in addition to -- You know, there was just a lot more uncertainty in that model, starting from that point, and, therefore, I think that the sigma-R was also kind of a symptom of that issue as well.

Lastly, comparing just the trend in fishing mortality, and so, in red grouper, it's comparison of an exploitation rate, and so it's just looking at the fraction of the population that's removed by fishing, as well as, in this 2005 point, you can see that it's very high, because that red tide mortality was estimated for 2005.

During SEDAR 42, the terminal year was 2013, and so, for 2014, which would have been the first year of projections, there was also a considerable red tide that, at the time, was not considered, during that assessment, to be severe enough for inclusion, and so what we're looking at is just one red tide event for this model, for this historic time period, through 2013.

Now, kind of what we've worked on, since then, is going into our projection methodology, and I have rerun the projections with the two sensitivity runs that I have shown, assuming that the

allocations would have been 76 percent commercial and 24 recreational, because that's what was in place in the time of SEDAR 42.

We're using the fishing mortality from the last three years, which is our general practice, and we're assuming selectivity, retention, and also discard mortality are the same from that last time block, and so, from 2013, whatever those trends were, we're using that forward, and, very importantly, for red grouper, steepness is fixed at 0.99, and so, when we're projecting forward, we're using the spawner-recruit curve, but we're essentially -- That's more of a convenience than admitting that -- That's not really a biological plausible estimate of steepness, and it's just a convenience of fixing it.

For the purpose of the landings during the projection years, for 2014, I used the same landings that were used for the SEDAR 42 model, and then, for the 2015 landings, I did what was done for SEDAR 42, was I either used -- Assumed that the 2015 recreational ACL would be taken or that the 2015 MRIP-FES landings would be used for that model that used the FES, and, again, I assumed the allocations at that time, and I have not updated the allocations based on Amendment 53, to try to keep everything as similar as possible to what was done previously.

The take-home here is this is a table comparing the OFL estimates and the ABCs, for million pounds gutted weight. For red grouper, I think the ABC was calculated with a P* of 0.427, and so, for those five years -- So, again, the terminal year was 2013. In 2014 and 2015, we had fixed catches, and 2016 was the first year we were providing catch advice, and so, for the five years, the average was ultimately used for the OFL and ABC for red grouper, and what, for the original model, was an OFL of 14.16 million pounds gutted weight, once we corrected that issue for the initial equilibrium catches, it would have dropped to about thirteen million pounds gutted weight, but then, once we would have implemented, or added in, the MRIP-FES data, it would have bounced up to about 14.8.

Similarly, the ABC follows a similar trajectory, and so just another way to visualize this is essentially what we've seen is that, by correcting the issue, we did see changes in the model configuration, in corrections that we noted, and we had a lot more uncertainty when we assumed a much higher starting point, but, then, once we add in the FES landings and discards, we do see increases in our trajectories for spawning stock biomass, both at the starting conditions as well as all the different years, and also recruitment, which is generally what we've seen with many of

our other stocks, and so, again, you know, dropping -- Correcting the issue, and then adding in FES, what the OFL would have been is it actually would have been 14.8 and not 14.16.

That's all that I have prepared, and I haven't really prepared a comparison table with SEDAR 61, because the numbers are not quite comparable, for many years. When SEDAR 42 was occurring, we can see it in the SSB trajectory, that the stock was increasing, and things were very optimistic, but then SEDAR 61 had a terminal year of 2017, and we had the red tide of 2014, and then 2018, and so the trajectory was in a much, much different place, but that's kind of what I have prepared for this analysis. I'm happy to take any questions. I'm sorry, and this was done in response to a council request.

CHAIRMAN NANCE: Yes, and we greatly appreciate this analysis, and we know that this is SEDAR 42, and we've already done SEDAR 61, but the council had asked for this comparison to be done, and so we're just looking for comments from the SSC about this analysis. Dr. Frazer, is there anything from the council to be aware of?

DR. FRAZER: I think that people just recognized that there is some changes that needed to be made to the model, and so they just wanted to see the output.

CHAIRMAN NANCE: John, please.

DR. FROESCHKE: Skyler, my question -- I guess, just thinking this through, when we added the FES to the SEDAR 61, we thought that to reflect the historical participation and that, but, when we changed the allocation from the 76/24 to the roughly 60/40, that reduced the OFL by about 15 percent, and so, if we were to use the FES in this, and you were to say, okay, we're going to make the allocation more reflective of what we actually thought in time, would we actually expect that similar reduction in the OFL that you produced here?

DR. SAGARESE: It's hard for me to comment on what we think will happen, because of the differences -- Whenever we do projections, they're all based on all those assumptions, and I just want to highlight that, with SEDAR 61, we made a lot of improvements to that model, where -- I mean, it's a good question, and I know this comes up all the time, because, when we do projections, we are projecting forward assuming that discarding behavior will be the same, but, once we've increased the magnitude of the removals by the recreational fishery, that also scales up the dead discards that get discarded during the projections, and that does lead to the reduction in the OFL.

I can't -- I would have to look back and do an analysis, but, if you're saying that there should have been a 15 percent reduction both times, I would just have to say that that's got to be a combination of all the different assumptions that we're making within the projections, changes to the model configuration, and we also had, remember, the mean weight adjustment to the projected recreational landings. I think that there's a lot of different moving pieces here going on.

CHAIRMAN NANCE: I think a comparison between 42 and 61 is -- We're just going to be chasing things, and I'm not sure that we're going to be able to do that. This is -- I think we just need to look at this as simply taking SEDAR 42, that model, and updating with correction of the errors, and then adding the MRIP, to see what the results are of that, and I think that's where we need to stick with -- That's what the presentation is. John.

DR. FROESCHKE: Just as a follow-up, the 15 percent that I quoted was based on the SEDAR 61, where all of those other assumptions were essentially in that analysis, and so the only difference between the 60/40 and the 76/24, at that particular time, was just the allocation, and so I guess my question is, on this, some of the differences that you see -- Yes, it's the FES data, but it's also the changes in the selectivity that are implicit with that, and so I'm just wondering if the OFL that was reported here is too optimistic in that same way.

CHAIRMAN NANCE: Shannon.

DR. CALAY: One thing, just to bring a little context to this presentation, this is a presentation that resulted specifically from a council request, and the intent of the council request was really to better understand the effect of FES, and, in order to do this, we did have to engage the SEDAR 42 model, which is why we're talking about it, but that model was many, many years ago now, and there has been SEDAR 61 since, and so I just wanted to remind the group that the intent of this presentation really was to look at the effects of the FES catch adjustments.

CHAIRMAN NANCE: Dr. Frazer.

DR. FRAZER: But, for clarification, and to John's point, right, the sector allocations, right, for SEDAR 42 were 73/27, or whatever it is, 74/26.

DR. CALAY: Yes, and I will let Skyler respond to that detail.

CHAIRMAN NANCE: Okay. Skyler.

DR. SAGARESE: Yes, and so that's correct, and so the allocations -- One thing that will change with that 60/40 is the change in allocation, but John did mention that it how the selectivities have changed, and it's not just that, but, when we project the population over time, that population structure -- So we're projecting twenty age classes of red grouper, and, depending upon how the selectivity and retention and discards -- How all of those processes affect the population structure, at each age class, once we get to the end of the projection, the OFL comes from that, and so, if there's changes to that population structure, you will see changes in the magnitude of the OFL and ABC, and so that is -- There are a lot of processes going on within the projections that we do run.

DR. FRAZER: Thanks, Skyler.

CHAIRMAN NANCE: Thank you. Doug Gregory, please.

MR. GREGORY: Thank you, Mr. Chair, and thank you, Skyler. I appreciate all the work you've done with this, and I'm glad that you were able to do this, when we couldn't do something similar to this with king mackerel, and that was frustrating.

You mentioned, early on, that the commercial landings dominated this, and, therefore, the FES didn't have a more significant impact on this, on something, and I don't recall what it was, but my understanding is, even though the quota was higher for commercial, in those latter years, the recreational landings were greater than the commercial landings, and so you're inputting the actual landings into this model, and you're not assuming a certain allocation going into that, are you?

DR. SAGARESE: For the model building, the historical period, we're using the actual commercial landings and recreational landings.

MR. GREGORY: That's what I thought.

DR. SAGARESE: But the allocations, moving forward in time, we are projecting that, each year, each fishery will take out -- The commercial will take out 76 percent, by weight, of the catches, or of the landings, and the recreational will do 24 percent, and so, in the projections, we have changed our methodology that, when we say we are holding allocations constant, we are, but, yes, we are using the historic data, and the allocations were updated by essentially just putting in, plugging in, the MRIP-FES landings and recalculating what the proportion of catches would have been,

and so what used to be 76/24 was changed, based on adding in the MRIP-FES.

MR. GREGORY: So MRIP, historically -- I mean, recreational landings, going into the model historically, were recalibrated and assumed to be FES landings and not the older CHTS that was used in SEDAR 42? Did I understand that correctly?

DR. SAGARESE: Right. What I've done is I have taken the data provided, the updated data from MRIP-FES, the estimates provided by the Science Center, and plugged those into the model, because those are now, moving forward, the best available data for us, and so the MRIP-FES landings estimates are what I put into this model, as well as what we used during SEDAR 61, and reviewed, and, essentially, the first assessment workshop we had for SEDAR 61 covered all of the new recreational data inputs, the landings, the discards, the size data, the indices, et cetera, and so, yes, all we've done is implemented, or input, the MRIP-FES data for this analysis into the SEDAR 42 model.

MR. GREGORY: Thanks for the elaborate explanation of a stupid question, because that was the whole purpose of this, was to input FES, and I just was getting historical mixed up with the projections.

The other question, the last question, I have is did this SEDAR 42 updated version, and projections, match, or come close, to those that were done in SEDAR 61, as they -- What's the word? A transitional analysis, and what do you call it when you go back and rerun the old assessment and see how it compares to the new and identify the differences.

MR. RINDONE: Continuity, Doug, a continuity run.

MR. GREGORY: Yes, a continuity run, and does this SEDAR 42 fixed analysis look similar to the continuity run out of 61?

DR. SAGARESE: In terms of the continuity results, we did do quite a bit of a bridging analysis, during the SEDAR 61 model, and showed the results in the report. For the purpose of the continuity, for SEDAR 61, the only changes that were made to that assessment model were, obviously, we did not have the old MRIP-CHTS data, and so we had to include the MRIP-FES data, but remember we also had the improved estimates of commercial discards in what would have been our SEDAR 61 continuity model, and we did show those results, in detail, in that assessment report. We didn't do any projections of any of those steps, but we did show how we got from the SEDAR 42 model all the way through to the SEDAR 61 model, and there were

quite a few changes that were made.

MR. GREGORY: Thank you. I appreciate it. Thank you, Mr. Chair.

CHAIRMAN NANCE: You're welcome. Any other questions from the SSC? Seeing none here, any online? Skyler, thank you for that presentation. We appreciate that information. we'll go ahead and take a break now until -- We'll come back at 11:00 Eastern Daylight Time, to make sure you guys in Texas will come back on time, and so we'll go on break now for a minute.

(Whereupon, a brief recess was taken.)

CHAIRMAN NANCE: We'll go ahead and start gathering again. Okay. I appreciate everybody being back in attendance. We're going to skip Item XI, the goliath grouper discussion, and we'll do that after lunch, probably, and it depends on how long we do this next item, and we're going to do Item XII first, which is terms of reference for the State Reef Fish Survey for SEDAR 72, and, Ryan, do you want to take us through the -- Thank you.

REVIEW: TERMS OF REFERENCE FOR STATE REEF FISH SURVEY RUN OF SEDAR 72 MODEL FOR GULF GAG GROUPER

MR. RINDONE: Sure. You guys are, obviously, familiar with the Florida State Reef Fish Survey at this point, and so the council had made a request of the Southeast Fisheries Science Center to take the completed SEDAR 72 base model for gag grouper that you guys have already reviewed, and, for the private vessel landings, to supplant those MRIP-FES landings with those as derived as Florida's State Reef Fish Survey for gag.

This additional model run, with complete diagnostics and projections, will be completed in 2022, using data through 2021, and will substitute out that MRIP data, and, again, this is just for the private vessel directed fleet, and so SEDAR 72, as many of you will remember, found gag to be overfished and undergoing overfishing, as of 2019, and the council has initiated work on a rebuilding plan of the stock, which will need to be implemented by January 1, 2024, and that's because gag is part of the grouper-tilefish IFQ program, and so it's important to get these regulations on the book before the IFQ quota is released, because, once it goes out the door, it does not come back.

The SSC should evaluate the terms of reference and provide recommendations, as appropriate, and this is a bit of a rough draft, and definitely we'll be looking towards the Science Center and Dr. Barbieri for some input on this, as it relates to the model

and to the SRFS survey, and to the rest of you for your input as well, and so let me have your edits.

CHAIRMAN NANCE: Thank you. I think that each of you can remember, when we went through SEDAR 72, those models, and there was a sensitivity run that was accomplished with this data, and it didn't have all of the diagnostic runs and so forth, and so this is to specifically run that model with the state data within it, and so let's go ahead, and Ryan is going to take us through the terms of reference here, and I want to make sure that, in these terms of reference, we're covering what we as an SSC want to see out of this run, so that we're not trying to fix things after, after the analysis. Jason.

MR. ADRIANCE: Thank you, Mr. Chair, and this is more of a question, and I think you sort of answered it, but this is a straight-up substitution of the SRFS and not converting the SRFS to FES, but just plugging those in in place? All right. Thanks.

CHAIRMAN NANCE: Jason, that's correct. Luiz.

DR. BARBIERI: Thank you, Mr. Chairman, and, Jason, yes, good question, because that's -- The idea, right, is that we've been working, regionally, and you know the process, right, for developing a lot of these supplemental surveys, right, to MRIP that can be more focused on some specialized fisheries that may not be well covered by a general survey like MRIP, and so this idea that we developed, the State Reef Fish Survey, with the idea of having this supplemental survey, and it should be, you know, fairly compatible, we think, with the MRIP framework, where the APAIS is actually conducted in concert with the MRIP-APAIS, and so the sample selection, and, actually, the site selection and the samples for the dockside survey is actually conducted in I think Silver Spring, as part of the regular MRIP sample selection process, the draws, sampling draw.

The idea was that we can use this survey, that is more specialized, for a fishery like grouper, that is basically 99.9 percent of the landings come from Florida, and so that would allow us to use this more specialized survey, and we went through a calibration process, right, and the calibration process would allow us to then generate a retrospective time series of landings, all the way back to 1981, right, and so that calibration process is now in the process of being actually peer reviewed, and we've been discussing this with OST, and NOAA Fisheries, in general, and so that's being peer reviewed, with the idea that all of this is going to be approved and that this assessment rerun is going to be accomplished using this new data series.

CHAIRMAN NANCE: Sean.

DR. POWERS: So, just to follow-up on Jason, and so it's not just a straightforward substitution, and, in the recent years, it's a straightforward substitution, but you still have a calibration back for historical, and I guess the difference being that, with all these calibrations, I assume, for the calibration, you assume the state data is correct and then calibrate MRIP to the state.

DR. BARBIERI: Correct. Yes, and so that's the idea, and it's not a matter of correct or incorrect, as you know, and it's simply a matter of which survey is more appropriate for that stratum of the fishery that we are talking about here.

DR. POWERS: You have to assume that one is correct, at the end.

CHAIRMAN NANCE: You're assuming one is what you're calibrating to.

DR. BARBIERI: Correct.

DR. POWERS: Right, and that's probably a better way to -- So do you handle -- Because I know, with other states, it's a problem, with closed season discards and all of that, and so the state survey takes care of all of those, and you don't have those complications that some other state surveys have.

DR. BARBIERI: No, and, fortunately, that's not the case with the State Reef Fish Survey, and so it's a year-round survey, and it monitors both landings and discards, right, and so all of these parameters actually included in the terms of reference for this calibration review is to make sure that all of the boxes are checked, right, and we have approval to have this, as appropriate, for use in stock assessments.

CHAIRMAN NANCE: Will.

DR. PATTERSON: Thanks, Jim. In this process, when this comes before the SSC, I assume that we would also look at that calibration that Luiz just mentioned, and then, when comparing the model runs, or estimates, with MRIP-FES as the recreational, private rec, time series, versus the SRFS time series, why wouldn't you also update the SEDAR 72 model for MRIP-FES through the time period that you're going to be considering examining for SRFS? It seems like you would want to update the SEDAR 72 model with the current approach to estimating private rec landings and then compare that, for the full time period, to SRFS.

CHAIRMAN NANCE: Shannon, please.

DR. CALAY: Well, I would say that, you know, we've done a lot of demonstrations now of the rec statistics and their differences on OFLs and ABCs, and we consistently do a model-building exercise, which is also contained in the report, of the assessments. What we want to specifically avoid is creating two alternative models that could not easily be determined which one is best to use, and so we intend to use the statistics that are felt to be most reliable for the model when we conduct the stock assessment, and presumably that will be GRFS, or SRFS, but, you know, I already suspect that we'll be doing some sensitivity runs.

CHAIRMAN NANCE: Will, does that address your question?

DR. PATTERSON: Partially. I don't understand what Shannon means by sensitivity runs. It seems to me that, if you're going to compare the performance of the two, then you would do that comparison, and, as far as the calibration component, it seems like we would have to examine that and determine which is the better approach. I understand we've looked at some of these things in the past, but, in this specific context, it seems like we would want to drill down a little deeper on that.

CHAIRMAN NANCE: Luiz, to that point?

DR. BARBIERI: Yes, and, Will, to the point of the calibration, right, and so there are two different things here. One is the calibration process that will demonstrate, right, that there is a valid process for calibrating SRFS data -- I mean, the MRIP data to the SRFS metric, going back in time, retroactively to the beginning of the time series.

That peer review process for the calibration is taking place with a set of independent experts that are being contracted by OST that will be -- There are terms of reference that were approved for that purpose, and there will be an actual review report that's being produced, and so all that documentation will be available, or should be available, to the SSC when it reviews the new runs, I think in July, and so I cannot speak about the other points, but in terms of the calibration process.

DR. PATTERSON: So, when we see this new approach to SEDAR 72, we would then be reviewing this document that examined the calibration, and is that what you're saying, Luiz? It seems to me that that would have to come before the SSC ahead of actually reviewing -- Utilizing it in the assessment.

DR. BARBIERI: Will, what you're asking is that the calibration review report be provided to the SSC in advance of the actual assessment run and not as part of the package of documentation that is going to be provided?

DR. PATTERSON: It seems to me, when we've considered changes in data inputs such as this, that the SSC has reviewed it ahead of time, and I can understand the desire of the state, and perhaps even the Southeast Fisheries Science Center, to examine the new time series of data, but this feels like kind of putting the cart before the horse a little bit here, and I understand also that there is going to be a peer review process, perhaps quite extensive, to examine that calibration, but, ultimately, you know, there is peer review done in different approaches for other data sources.

The Great Red Snapper Count, for example, most recently, that CIE review then was reviewed by the SSC, and it just seems that's our typical mode of operation, that we would consider that calibration report and review ahead of time. If it has to be concurrent, so be it, but it just seems like that should be part of the terms of reference here, that that review at the SSC level occur.

CHAIRMAN NANCE: Luiz.

DR. BARBIERI: To that point, Will, in that case, and I understand your point, and I think, ideally, that would be the process, right, that would take place, and so there are two factors here that are coming into play.

One is that the council -- You know, now that we had an assessment that was conducted and reviewed by the SSC, and some management actions need to get started, and that clock has started running already, as far as getting the rebuilding plan in place, and so there is a bit of a rush to get this next one -- For the assessment completed in time for that process to take place, number one.

Number two, although I understand your point about having that peer review of the calibration process provided ahead of time, I would put this similar -- I would compare this similar to when we get, after either a research track assessment or the previous benchmark assessment, that are reviewed by the SSC, right, and the CIE reviewers, that we receive the CIE review reports at the same time that we review those assessments. Obviously, we are going to receive all the documentation in the briefing package in time for discussion of the SSC, like we review everything else.

CHAIRMAN NANCE: Okay. Katie.

DR. KATIE SIEGFRIED: Thank you, Chair. It was nice to see a lot of you last week, and I'm sorry that I can't be there this week, and I just had a question about Ryan's statement of work, and it might affect what Will was just asking about, where it said that data will go through 2021, and the understanding that we've had, with the council request and with SERO, as we're preparing to do this run, is that the terminal year of data in the base model would not change.

However, we can incorporate more recent data in the projections, but we have to understand the difference between that terminal model request, terminal year request, and what is in the projections, and maybe Ryan could clarify, because, if it's -- If the terminal year is not extended, then the comparison that Will is asking for will be available, and so the MRIP data were used in the base run, the FES units, and then what will be provided is a new base run with SRFS for the private landings.

I'm not sure what the consultants will say, whether there will be a lot of sensitivities, and I don't anticipate a lot at this point, from what I understand, but, if we could get some clarification on the terminal year, that would help the discussion, I think.

CHAIRMAN NANCE: Ryan, any --

MR. RINDONE: I'm chatting over here with Dr. Frazer, and I think part of the concern is the age of the advice, because we're talking about making decisions that will affect the 2024 fishing season, or perhaps the 2023 fishing season, if this is available to be used for the emergency rule, but, based on the terminal year of 2019, and this is a very common thread of consternation from most of the stakeholders about the age of the advice, compared to the time at which it's implemented for informing and modifying management, and so I think perhaps a compromise, to suit the needs of both the ability to examine the precision and performance of both versions of the SEDAR 72 base model, and also provide more contemporary advice, may be to update the projections with the most contemporary data possible.

For 2020 and 2021, use actual landings there, and then, for 2022, and probably we won't be able to do anything specific for that, but, I mean, our expected first year of management would be in 2023, and so perhaps taking the mean of the previous three years, or something like that, that we customarily do, may not be inappropriate, and so I'm half thinking out loud here, and so certainly I'm willing to entertain other ideas.

CHAIRMAN NANCE: Katie, to that point?

DR. SIEGFRIED: The reason I asked is because all of the discussions about how quickly this can get done have been based on that terminal year of being 2019, and, although I understand the consternation, it's just simply not possible, at the Science Center, to do all of those additional data sources through 2021 now, with our current schedule, and so, if that's not acceptable, I guess we would have to go back to the council and discuss, but we certainly can make the modifications in the projections that Ryan was alluding to, and we can use a mean of recent years to inform 2022, to produce projections starting in 2023, or even, if we have to do it for 2024, and I assume the advice has to go in for January of 2024, and so we can work with council staff on the assumptions for projections, or with whatever the SSC would recommend, but we just can't extend the terminal year.

CHAIRMAN NANCE: Okay. Thank you, Katie.

MR. RINDONE: So, Katie, for -- I mean, I think, for 2023 -- Carrie, can you come up here, because you're probably going to want to talk about this, too. For 2023, for the emergency rule, one of the things that we're trying to use for that is the first year of projections from the SEDAR 72 base model, and so, assuming that we're going to get something similar out of this run, we would have some value to use for 2023, which could then be used for the terminal year, and so part of me thinks that we should assume that, the implementation of that for the 2023 fishing year, just go ahead and assume that those landings are going to be what's realized, and then project forward there from 2024. Is what I'm saying making any sense? Carrie might want to expand on that.

CHAIRMAN NANCE: Carrie, please.

EXECUTIVE DIRECTOR CARRIE SIMMONS: I think we have a couple of different things going on here, and so we have a stock assessment with projections in MRIP-FES right now, and the council has received a letter that we have to develop and implement a rebuilding plan by January 1, 2024.

In the meantime, they want to try to quickly enact, through an emergency rule, management changes in January of 2023, and we're working on that right now, and so the assumption, right now, is that interim rule will be in catch advice in MRIP-FES. If we could in fact get this catch advice from the SSC in July, perhaps, if this approved by this body, then maybe those units would be in SRFS, which would be the same units that the rebuilding plan would

be done in, and so that would be more preferred, or, if it's not changed from FES in 2023, then we would move forward with the rebuilding plan in 2024, and so we do have some units issues here that we're trying to work through, based on timing, and so did that make sense at all?

CHAIRMAN NANCE: It would seem like, to keep the model the same structure, in order to facilitate simply replacing the recreational data to the Florida state data from the MRFSS data, and I think that was the intent of what was going to happen, not to extend things.

DR. CALAY: That was certainly our understanding when we discussed this, and, just as a further point of caution, if we could update that model, and get all the new indices, and that requires a review process, to adopt that now as best available science, and it would have an entirely different outcome and stock status, and so that was never our intention, to update the model, and it was only to replace the FES data with SRFS, if possible, as a strict replacement, retaining the terminal year of 2019, and we could, as Katie has already said, look into updating the projected catches with realized catches, if they are available for the early projection years.

CHAIRMAN NANCE: Carrie.

EXECUTIVE DIRECTOR SIMMONS: One more thing, and I think that would be a good idea, because, Katie, do you know, offhand -- Historically, I think both sectors are down anywhere from 50 to 60 percent lower than the quotas, and is that right, for landings in the last four or five years?

DR. SIEGFRIED: Yes, and we should be able to -- If it's in SRFS units especially -- With all of the communication going on with the transition team, I don't anticipate Luiz and his group not getting anything to us, and, I mean, we should be able to use those recent years of data.

There's a little bit of a caveat there as to what the reviewers want to do with shore mode, but I don't anticipate that being hard to gather either, but I do think it's important to use the recent estimates in the interim years in the projections, and I just really wanted to clarify here, because it sounded like there was some confusion about the terminal year.

CHAIRMAN NANCE: It sounds like we've come to an agreement that the terminal year should be the same as it was, 2019. Doug Gregory, please.

MR. GREGORY: Thank you. I've got a couple of questions. One is what's the timeline for this? It sounds like this is going to be done pretty quickly, and how does this affect the assessment schedule we have for all the other assessments in the Gulf?

MR. RINDONE: This is going to be done pretty quickly, and you guys are going to be reviewing it at your July 7 and 8 SSC meeting, and Shannon is doing this assessment at night, while she eats dinner, and they're going to work on this, and they're going to knock this out for you guys, with a lot of help from her team and from Luiz's shop, and so we expect it to be available in advance of the July SSC meeting for you guys to pick apart, along with the calibration information that will come from the MRIP transition team and FWC.

MR. GREGORY: Thank you. My hat is off to the Center for agreeing to do this, I know, as busy as they are, and, relative to the terms of reference, it seems to me that we should try to be more specific with MSY and not leave the proxy wide open, but actually specify F 30 percent and Fmax as alternative proxies, like we did in the earlier terms of reference for SEDAR 72.

The other thing that seemed to be missing is, in SEDAR 72, we looked at female only and male and female biomass, and I don't know if that could be done again, and it's not critically important, other than you get dramatically different results with the two different approaches, and, at some point, that may be helpful, but I think we clearly need to specify that the proxies of F 30 percent and Fmax should be evaluated. Thank you.

MR. RINDONE: Doug, we can add that into the MSY proxies, but, as far as the female-only or sexes combined, the approved SEDAR 72 base model that you guys reviewed is sexes combined, and so the expectation is to continue forward using that sexes-combined model.

MR. GREGORY: I agree.

MR. RINDONE: Not a female-only model.

MR. GREGORY: Right. Thank you.

CHAIRMAN NANCE: Shannon, please.

DR. CALAY: I just wanted to make one clarification, since there was a question on the record, and so we will not change any of the data delivery deadlines for the SEDAR process, and we have asked

for an additional two months for the analyst to prepare the documentation for the next assessment that Lisa Ailloud is leading, but there is no impact on the number of assessments that will be conducted in the calendar, and so there is a small impact of this request, and it's to gray snapper, I believe is the next assessment that Lisa is conducting, but I could be wrong, and my staff will tell me in a moment.

CHAIRMAN NANCE: Okay.

MR. GREGORY: Well, that's expected. Thank you, Shannon.

DR. CALAY: It's Spanish mackerel. Thank you.

CHAIRMAN NANCE: Thank you. Okay. It's good to have texting, isn't it? Will, please.

DR. PATTERSON: Thank you, Mr. Chair. This issue about what the terminal year of the data will be alleviates some of the earlier question that I had about review of this, because SEDAR 72, with MRIP-FES, was done through that time period, and, if it's simply replacing the recreational landings, and I assume age comp, from those landings, then that will minimize the amount of review that the SSC would need to do, and, as Luiz indicated before, if this calibration work would come before the SSC at this same meeting, and we would review that, then we would have that opportunity to review the calibration at the same time as we would be reviewing its use in this assessment.

That's not ideal, but I don't think we should be in the habit of trying to force things through review because of convenience. I mean, we saw this issue most recently with the Great Red Snapper Count, and there was enormous pressure to have those estimates incorporated into some type of analysis that could be utilized to update catch advice, and it was a different SSC at the time, but members of the SSC recommended the Great Red Snapper Count go through a CIE review and then an SSC review, and that's a pretty substantial amount of review.

As a member of the Great Red Snapper Count team, I supported that process, and I thought it was important to have that level of review, and what we're talking about here is nothing close to that extent, but I just think it's important for us to consider this departure that has implications and can set precedent for other departures of data time series used for other species, and I am fully aware of the consternation and concern that folks have had with MRIP and MRIP-FES and the amount of resources the various Gulf states have put toward estimating the recreational landings

independent of that survey.

Because of that, I think we should just be very careful how we handle this and not change our process and approach for expediency, and clearly this is an important issue, but let's not get too far ahead of ourselves, and I think that would be a bad precedent to set.

CHAIRMAN NANCE: Thank you, Will, and I agree with that. Absolutely. Luiz.

DR. BARBIERI: Thank you, Mr. Chairman, and, Will, I agree as well, and I think those are valid points that you bring up there, and just, again, just to put this on the record, this process of integration of supplemental surveys is not new, and the perception now, to some of us, is that all of this is new, but this has been taking place for almost ten years now, and it's a coordinated effort between the Gulf States Marine Fisheries Commission, the Gulf states, and NOAA Fisheries, and, I mean, OST and the MRIP program have been involved in that process from the very beginning.

This is a process that has been taking place, and there is a transition team process, the MRIP transition team process, that has been operating in the background, right, and handling all of this, that culminated, this past February, with a transition team workshop, a multiday workshop, and all of those surveys were presented and reviewed and discussed by a team of independent experts, and they were statistical survey experts, and they were there for that purpose.

There's a report, and, actually, a draft of that report was produced as a working paper for SEDAR 74, but that report is being finalized, and it's going to be hopefully available to the SSC to look at in July as well, and so, between those recommendations and comments from reviewers and the rest of the transition team members in that report, plus the actual review report from the independent experts' review of the transition, I think we're going to have enough documentation, but I understand Will's point, and I think that's important to be clarified, so that everybody understands how that's taking place.

CHAIRMAN NANCE: Thank you. Sean.

DR. POWERS: So just, on the calibration, what years are you all using on the calibration part from MRIP to SRFS?

DR. BARBIERI: The years of overlap? Do you mean between --

DR. POWERS: What years are you basing the calibration, and so the years of overlap between the two surveys?

DR. BARBIERI: Gosh, I don't -- Let me see if --

DR. POWERS: I guess my question is are you using 2020 and 2021 in that calibration?

DR. BARBIERI: No, and so there is a standard set of years that was selected, and Bev is probably -- Yes. May of 2015 to December of 2019, and so all of this -- We actually had produced a calibration report that documents all the formulations that were used, right, and all of the R code and all of the outputs, and, I mean, all of that was there, and there was a standard set of years and months that were used for that purpose.

To be honest, that whole calibration report had been reviewed by the MRIP consultants that are under contract for this review, but, unfortunately, no review report was put together at that point, right, and so we didn't really have any written documentation of the review that took place and what their recommendations were, and so we're having to revisit this now, but this new review -- We were specific, in the terms of reference, to include a review report, so we have that documentation, and so all of that is going to be explicit, when you see that report.

CHAIRMAN NANCE: Thank you. Leann.

MS. LEANN BOSARGE: Thank you, Mr. Chairman, and so, while you all were looking at this scope of work, I thought that I would bring something up, and it's not necessarily specific to this scope of work, but all of your assessments and your scope of work for those going forward, and it was a discussion we had at the council meeting, either the last meeting or the meeting before, and we've had it a couple of times, and it relates to that presentation that Skyler just gave you all for red grouper.

This is something that the council has been asking for for a couple of different species, and the discussion we had was, okay, well, going forward, we're going to want to see those historical OFLs and ABCs, the revisions to those, the same way we've revised our historical landings stream, and so what is the best way to accomplish that, rather than us asking for one-offs here and there and Shannon having to work during supper, like you were just talking about.

The Science Center told us that the most efficient way to accomplish that is, as we are going into an assessment where we

are making that first changeover to FES numbers, that would really be the most efficient time to give you -- To try and also output for you those historical OFLs and ABCs, taking into account those FES numbers, and I think that's particularly important here in this gag grouper.

We know that we're not going to have a rosy picture, regardless of what landings stream we put into it, and so, as managers, we need to understand, you know, what the drivers, the various drivers, of a particular status may be, to truly understand how the stock responded to our management in the past and what we may need to do differently.

The question is, Ryan, or Dr. Nance, is that part of this scope of work, where we'll get those revised OFLs and ABCs, in whichever currency we're going to ultimately output this assessment in, whether it be SRFS or FES?

CHAIRMAN NANCE: We have the big boss here, and so I'm going to have Shannon --

DR. CALAY: Thank you, Jim, and so one thing that we have not prepared for the council in the past, that might be helpful, and does not take a great deal of time, is there may be a slight misunderstanding, amongst some, about whether -- How we apply allocations.

The historical data that we use for any stock assessment, we use the actual landings, whatever they are, right, and we apply the allocation in the projections, to basically see where the allocation will occur, as we have specified. What we could do is actually show you what the realized landings were for the rec sector and the commercial sector during the historical period and then what allocation was assumed for -- I think you're probably speaking of red grouper, and, potentially, we could show you essentially that summary for SEDAR 42 and for SEDAR 61, just to give you an idea of what we entered into the stock assessment model as the actualized landings during the historical period.

We could show that, and I have agreed, tentatively, with Tom to provide that summary in time for the council meeting. It does not require an analysis. It might be -- We can talk about it further when we see the results, to see if that information is useful to you.

MS. BOSARGE: Mr. Chairman, may I respond?

CHAIRMAN NANCE: Yes, you may.

MS. BOSARGE: That sounds very useful, Shannon, and I think maybe I didn't explain it well though, and I'm actually looking for the OFLs and ABCs that would have resulted in the past, that we would have had in the past, so that we can see how -- Like take amberjack, for example, and I don't want to digress too far here, but it seems that it has never actually responded to all of our management measures, and, therefore, we tried something different the last time, and we actually changed that minimum size, thinking that maybe we were killing too many babies for the last thirty years, and I don't know, and so what we're getting now, as managers, is we're getting this new historical stream of landings, right, because of FES.

However, we're not able to track that against what the historical OFL would have been, to see, okay, is that really the bulk of our problem with some of these grouper species, or is it fact more the red tide and the environmental issues, and we can't tell, and we're going to go into a rebuilding plan, and that's a heck of a way to enter a rebuilding plan, when you really don't even know what the drivers of your problems are.

It does affect what you focus the bulk of our your management on, and it may be that we really should be focused on the data collection more, on the recreational side, so that we don't keep recreating this wheel, and I don't know though, because I can't see what the historic OFLs and ABCs would have been, and only the large increase in recreational landings, but were we actually exceeding the thresholds that is our basic tenet of management for fisheries in this country, and so that's what I am trying to get to, that picture.

CHAIRMAN NANCE: Shannon, to that point?

DR. CALAY: Yes, and I am very aware of the concerns, and I am sympathetic. The Science Center has heard that request, and it's simply beyond what we can do without cancelling stock assessments out of the SEDAR schedule, and so we have prepared now about twelve different council requests related to red grouper since SEDAR 61, and, really, we have very little additional information to give at this point, and so I think the best we're going to be able to do is show you kind of what the actualized allocations have been historically and what we assume, and, of course, allocation is a council decision, and so we've already done a number of analyses that show that the allocation does have an impact on the OFLs and ABCs, but we simply cannot do additional workload related to determining how things might have performed if we had made different decisions without impacting the SEDAR calendar of

upcoming assessments.

CHAIRMAN NANCE: Thank you, Shannon. Thank you, Leann. Katie.

DR. SIEGFRIED: Thank you, Mr. Chair. I just have a clarifying question about this run that Lisa will be undertaking, because of some of the discussions that you all have had, and so especially in light of Ms. Bosarge's comment, and so what we were thinking, on our team, was that, you know, we're trying to make these deadlines for managers to be able to potentially consider SRFS, instead of FES, should the consultants deem that appropriate, because we realize the concern and impact that the status of this assessment has caused.

That's why we're sort of, you know, going as fast as we can to get this done, but, in light of that, we thought that this request was really a streamlined redo, and the TORs here show that, that there's really just -- Replace private landings with the SRFS data, document any changes, and then update all of the, you know, important parameters and the status that comes out of the model, as well as doing the projections.

My question is are all of the sensitivities expected, based on kind of Will's comment and Luiz's comments about the review of this model? There will certainly be diagnostics, and those were needed in order to get all of the important quantities, and, like I said, the projections will be completed, because that gives us status, but are all of the sensitivity runs expected, and do you anticipate reviewing those, because that actually adds quite a bit more work to Lisa's plate than we were anticipating originally.

CHAIRMAN NANCE: Luiz, to that point?

DR. BARBIERI: Yes. Thank you, Mr. Chairman. Katie, I'm sorry, and I may have said something that made it sound like I expected more than just what you just described, and that's not the case. I mean, because I had seen these TORs before, and my expectation is that there would be just a substitution of that one data stream, the private recreational-vessel-based recreational fisheries statistics into the model, the model rerun, and then produce the regular set of diagnostics that are produced within the SS framework and that we usually see when reviewing stock assessments. If I said something that made it sound different than that, Katie, that wasn't my intent, and I'm onboard with the plan that is on the table right now.

CHAIRMAN NANCE: That was my understanding, too. Shannon.

DR. CALAY: I did want to just put in one important note, which is that this is possible because there is essentially one state involved, and because most of the removals of red grouper are from the State of Florida. As you add additional state partners, this becomes a much more complicated request, and so I just wanted to explain why we're willing to do this in the case, because it is one state partner who needs to provide us with the time series.

CHAIRMAN NANCE: Luiz, to that point?

DR. BARBIERI: I'm sorry, but just quickly to that point, and I think that all of this will become clear, and you're absolutely right, Shannon, and this going to become clearer when the committee sees the report that is coming out produced by the transition team, and so the process, you know, the OST and the MRIP program has, and it's national-level program, as all of us know, and there are regional MRIP implementation teams that develop MRIP implementation plans, right, and there is a process, and this can happen anywhere.

The is a process for development and incorporation of supplemental, or substitute, surveys that may be addressing portions of the fishery that are perceived not to be as well covered by a general survey like MRIP.

That transition process initially started with certification that involved, of course, peer review of the methodology that was developed by the survey, and then, after that process of peer review, then you go into transition, which involves calibration, and then all those parameters of the applicability of the specific data series to specific assessments and situations is actually covered in that report, and so we're going to see that, hopefully, in July.

CHAIRMAN NANCE: Thank you. Doug.

MR. GREGORY: Thank you. I seem to remember that there was a sensitivity run using the State of Florida data in SEDAR 61, and that it was calibrated back in time, and I'm wondering what benefit this is going to provide over that if this is not going to be done in a manner that would let us decide, for future assessments, if the State of Florida data could be substituted for the federal data, for grouper species that are found almost exclusively off of Florida, any species found off of Florida, and so I'm confused as to what we're trying to accomplish here.

CHAIRMAN NANCE: I think you're looking -- Ryan.

MR. RINDONE: Thanks, Mr. Chair. Doug, the sensitivity run that was conducted as part of SEDAR 72 used a linear historical calibration, whereas this one that's being done between FWC and the transition team is more attenuated, historically, with the changes in trends and landings, and it also is going -- Like this alternative run is going to be run with the full suite of model diagnostics, whereas that sensitivity run was not.

CHAIRMAN NANCE: Shannon, to that point, also.

DR. CALAY: Yes. Thanks. I think, from our perspective, the more important difference was that, you know, what we put together for SEDAR 72 was provisional, and it was not reviewed, and we did it just as a sensitivity run, and without any intention of using that for a final model run, and so this, hopefully, will be a reviewed and accepted product.

CHAIRMAN NANCE: Yes, and this will be a model run that we would be able to get management advice from, and that's the intent.

MR. RINDONE: Right, and, like Dr. Patterson said, the intent is to maintain the same commensurate level of review as we would with an operational assessment that had otherwise gone through a similar process.

CHAIRMAN NANCE: Thank you. Katie.

DR. SIEGFRIED: Shannon spoke to what I was going to say. Thank you.

CHAIRMAN NANCE: You're welcome. Let's go ahead -- Ryan, let's take us through the TORs, so that we can -- I think that's the intent, is are there changes to this, or are we comfortable with each of these, and I think each of us should have had the opportunity to look at these, and so, if there are changes or those types of things, let's entertain those now.

MR. RINDONE: Sure, and so, I mean, I see one, off the top, but, under Number 1, update the approved base model, it should say "use SRFS to inform private recreational landings data once historical SRFS landings have been calibrated and SRFS has been certified by OST". Then document any changes made, which is a typical TOR that we've put in there, just in case there was any fidgeting or fiddling that had to be done, and then the rest of it, from there, is actually pretty straightforward, because the rest of it is intended to remain the same.

CHAIRMAN NANCE: I think the rest of it is simply --

MR. RINDONE: I copied it and pasted it from the last time, yes.

CHAIRMAN NANCE: It's from SEDAR 71, and I think that's the intent here, is that we're using the model, the SEDAR 71 model, and simply replacing --

MR. RINDONE: It's 72.

CHAIRMAN NANCE: It's 72? Okay. I'm sorry.

MR. RINDONE: It's not like there's a lot of these, or anything like that.

CHAIRMAN NANCE: SEDAR 72. Thank you.

MR. RINDONE: Jess, can you also highlight the first bullet there, under "use the following status determination criteria", and then that's where I will input what Doug had asked for, with specifically mentioning the SSC's proposed proxy for MSY, which is 30 percent SPR, and then, also, the historical MSY proxy, which is Fmax.

CHAIRMAN NANCE: Katie.

DR. SIEGFRIED: Thank you, Mr. Chair. I did have one other thing, I guess, that Shannon hadn't brought up, on the fly. Last week, when we were meeting in the recreational workgroup, and I was talking to Bev Sauls, she didn't indicate any difference in the historical SRFS landing calculating methodology, and is there something new? Maybe Luiz could speak to that. I didn't think there was.

CHAIRMAN NANCE: Yes, and Luiz will speak to that.

DR. BARBIERI: Thank you for that question, Katie, because that clarification was -- There was no change, really, in the calibration process, and this is the same calibration process that had been applied before, and, again, I will repeat that this has been peer reviewed by two consultants, under contract with OST and the MRIP program, for this exact purpose.

Unfortunately, they did not produce a review report, right, and so there was no documentation that that review of the calibration methodology had actually taken place, and this is what generated valid questions by the Science Center on whether this calibration procedure had been actually accepted, peer reviewed and accepted, and approved, and so this is why, now, this new review is basically

following terms of reference and generating a report, like Will mentioned, and it will be important for us to have this in July, and we can read through all of that.

CHAIRMAN NANCE: Thank you. Any other questions or concerns with this for the SEDAR 72 update? I guess I can put "update" in there. Luiz.

DR. BARBIERI: Just one more quick thing, just because I saw an email now.

CHAIRMAN NANCE: You can't read emails during the meeting.

DR. BARBIERI: Well, this came from Dr. Simmons, and Dr. Simmons actually has asked Jessica to distribute to the committee the working paper for SEDAR 72 that actually described the calibration methodology and provides all the necessary information there.

CHAIRMAN NANCE: Okay. Thank you. Thank you, Carrie. Seeing none, Ryan, I think we're set on this one. Shannon, did you --

MR. RINDONE: Got it.

DR. CALAY: As an order of operations issue, one thing that became very blatantly obvious to us, during the SEDAR Steering Committee meeting on Monday, was that the Center is being asked to finalize the assessment schedules in May two years prior to the assessments. I am just wondering if -- Is this a 2025 assessment, Ryan? Are we reviewing 2025 statements of work or 2024?

MR. RINDONE: Well, this is separate entirely from all of that.

DR. CALAY: This is separate entirely. All right.

MR. RINDONE: At this point, for -- The council would be producing scopes of work for 2025, and we already submitted the ones for 2024.

DR. CALAY: Okay, and so my point really is that what we're struggling with right now is to attempt to understand the workload that will come from these additional services that we provide, and so one of the things that has become clear, in our SEDAR Steering Committee, is that the schedules that we're creating essentially have no buffers, right, and so the additional workload is challenging to schedule, and so I'm really bringing this up because maybe there is a need to discuss how we can create time slots for this additional workload within that framework of events that we have to -- That we know we need to complete, so that we have enough

time to address unexpected workload, because, right now, we're really stressed to try to jam into the calendar the unexpected things that come up.

CHAIRMAN NANCE: So what you're saying is these years are all locked in, as far as your time is --

DR. CALAY: We'll be locking calendars now by May, two years before the stock assessments, and that's going to be the paradigm that we have proposed, is that we would not only have an idea of which stock assessment would take place, but we would also have negotiated the project calendars, which leaves us very little time to shoehorn in additional requests, and so there may be a need to discuss how we can -- How we can accommodate time to support what the council is --

MR. RINDONE: Just to pile onto that a little bit, and Shannon is saying this in a very nice way, but the expectation should be like don't expect this to be a regular thing. Like this is a special circumstance.

The way that the schedule is set up right now, it is tight as a drum, and so nothing gets inserted into there without having to move something else, and so, in this particular instance, because of the nature of it being a single state that produces a spatially-comprehensive survey for a species for which better than 95 percent of the private vessel landings occur under the sampling universe of SRFS, it was not inappropriate to examine it in this way, and also given the fact that SERO and the council are actively engaged in the development of an emergency rule for a stock that is depleted, and there is a very strong management impetus to act upon this information as quickly as possible, using the best information available, and the most current information available.

The combination of all of those forces kind of converged into what you guys are going to review in July, and so this is something that should absolutely be considered atypical.

CHAIRMAN NANCE: Yes, and I agree. It's one of those things, and this is -- I appreciate the Center being able to accomplish this, and I think it's being able to accomplish it because of the constraints we've put into the TORs. With that, let's go ahead and break for lunch. We'll come back at 1:00, and we'll take care of our last agenda item, the discussion of goliath grouper.

(Whereupon, the meeting recessed for lunch on May 11, 2022.)

- - -

May 11, 2022

WEDNESDAY AFTERNOON SESSION

- - -

The Meeting of the Gulf of Mexico Fishery Management Council Standing and Special Reef Fish, Special Socioeconomic & Special Shrimp Scientific and Statistical Committees reconvened on Wednesday afternoon, May 11, 2022, and was called to order by Chairman Jim Nance.

CHAIRMAN NANCE: It looks like we're getting ready to go ahead and start, and so if everyone will come back. I am looking for Luiz. We'll go ahead and start, and then I will send a posse to go find Luiz. Go find him, Tom, and it's going to be a short discussion without Luiz, and I will tell you that. Let's go ahead and, Ryan, have the scope of work, please, for this next topic, which is Agenda Item Number XI.

DISCUSSION OF GOLIATH GROUPER COUNCIL MOTION AND AVAILABLE DATA

MR. RINDONE: Sure, and so I'm going to review the management history and stock assessment history with you guys about goliath grouper, and the impetus for this comes from the Gulf Council's motion from its April 2022 meeting to request that the SSC reconsider the OFL and ABC for goliath.

Dr. Barbieri is going to review some information provided by the State of Florida concerning recent research the state's 2022 limited harvest program for goliath in state waters, and you guys should evaluate the information presented and ask questions. In particular, you guys should consider whether the overfishing limit, which is currently equal to zero, should be maintained or respecified and whether the acceptable biological catch should be reconsidered, and I guess a little clarification on this, and it's not to say that these numbers should necessarily be changed at this meeting, but whether it is something that you would like to explore.

CHAIRMAN NANCE: This agenda item is a little bit different, because it looks like Ryan has got two hours, and I've got one hour, for discussion. I'm just kidding.

MR. RINDONE: I am just trying to be generous.

CHAIRMAN NANCE: I'm just kidding you. Okay. Luiz.

MR. RINDONE: Mr. Chair, I'm actually going to go first, and I'm going to talk about the management and assessment history, real quick, and so Amendment 1 to the Reef Fish FMP, and this is all information that you can pull off of our website, off the council website, and so I'm just summarizing all this for you.

Amendment 1 to the Reef Fish FMP was implemented in 1990 and set a fifty-inch total length minimum size limit on goliath, and goliath, at this point, was not included as part of either the shallow-water or deepwater grouper complexes or as part of the aggregate grouper bag limit, and so the aggregate bag limit, at the time, I think was five fish, and so it wasn't suggesting that you could keep five goliath.

Now, later, in 1990, Amendment 2 came along, and it prohibited the harvest of goliath entirely in federal waters, in response to indications that the stock's biomass was severely depleted. After SEDAR 6 got underway, Amendment 18B was started, and this included a rebuilding plan for goliath, and it also had talked about Nassau grouper, which was ultimately excluded from the FMP, but the development of Amendment 18B was predicated on the completion and use for management of the results from SEDAR 6, and it would have set a total allowable catch, minimum stock size threshold, and maximum fishing mortality threshold for the goliath stock.

When the assessment was not accepted for use in management, the development of Amendment 18B was stopped, and the other items that were in it, that pertained to other species, were shoveled out and dealt with separately.

Successive SEDAR assessments on goliath, like SEDAR 23 and SEDAR 47, have also not been accepted for informing fisheries management, for a variety of reasons. Goliath is one of those species that we think about first, along with red drum, when we think about the effects of closing harvest entirely and the effects that that can have on some of the data that are collected through fishery-dependent veins, like being able to get age and length compositions from some of those samples, and discards and things like that. When you close the fishery entirely, you no longer collect any of those data, and that's been the situation with goliath now since 1990, and so that is where we are, Dr. Barbieri.

CHAIRMAN NANCE: Thank you, Ryan. Luiz, please.

DR. BARBIERI: Thank you, Mr. Chairman, and, Ryan, thank you for that introduction, thorough introduction, because I think, you know, providing this background is really relevant to this, and

so, just restating some of the main points that Ryan covered here, this issue really originated because, this past March, the FWC, the FLorida Fish and Wildlife Conservation Commission, or the Florida state agency for fish and wildlife, approved this limited, very highly-regulated harvest for goliath grouper, which has a lot of parameters that I want to quickly review with you, but just a general introduction first.

The fact that we have not been able to complete, successfully, a stock assessment for goliath grouper, and that we had, perhaps, as a result of this failure, set OFL, the overfishing limit, equal to zero, and the ABC equal to zero, and this creates a number of regulatory and administrative problems, right, because, when you have an OFL set equal to zero, and you have some level of harvest throughout the range that's covered by the management plan, even if it's in state waters, that technically really represents that an overfishing action is happening, right, for the stock.

FWC leadership discussed this with NOAA Fisheries, the Regional Office, and has been in that discussion for a while, and SERO clarified that, because this fishery is limited to state waters, it really is beyond the federal jurisdiction, formally, right, but encouraged the agency to approach the councils and its SSCs to sort of revisit and ask that it revisit these recommendations for OFL and ABC, to avoid some of these administrative and regulatory problems that are coming up.

That's basically, you know, the process that we are trying to go through here, is discuss whether -- You know, revisit this recommendation of OFL and ABC equal to zero, and, for comparison, or for reference, here, the South Atlantic SSC has also considered this situation in the past, because the stock is actually managed jointly by both councils, and so the South Atlantic Council looked at that issue as well, and the SSC had made a choice, at the time, to declare the OFL, the overfishing limit, as unknown for all the stocks that we unassessed, because it considered that we do not have actually the scientific information to know, to determine, where the overfishing limit is, and so, in some cases, it actually recommended an ABC, based on average landings or some other criteria, for those stocks, but always, in those situations, consider the OFL as -- Determine the OFL as unknown.

That was actually discussed with NOAA General Counsel, and they said that this is acceptable under the parameters of National Standard Guideline 1, and so that's how that remains.

Here in the Gulf, the problem is a little harder, because we had set the OFL equal to zero, and so that's one of the reasons to

have this discussion and see if we can kind of review that decision and see if we have the information to make some different recommendation at this point.

Just, real quickly, Mr. Chairman, we have a summary document, and it's Attachment 11(d)(ii), that I had put together summarizing what the parameters, basically, of this limited fishery are.

I am not going to read through this whole document, but I thought that it was important for you to see that the proposal that was approved by FWC is really based on a lot of constraints, and so the harvest structure is a limited access fishery, and so there will only be 200 harvest permits that are going to be issued, and each one of those permits will have an associated physical tag, where the fish is going to have to be tagged, for enforcement purposes.

It's one fish per person per year, but there will be a lottery, with an application fee, and then, for people who are drawn, selected, by this random draw they will a $150 fee, permit fee, for the harvest, and $500 for the non-residents, out-of-state folks. The permits and tags are non-transferable, and, yes, one harvest permit and one goliath grouper tag per person per year. There is a lot of parameters that are associated with this to make sure that this fishery is very constrained, and, now, scrolling down a bit --

CHAIRMAN NANCE: This is purely in state waters, correct?

DR. BARBIERI: Yes, sir. It's purely in state waters. Mr. Mareska.

MR. MARESKA: Thanks, Luiz. Is there any assurance of spatial distribution of those samples, or is there a chance that a lot of the samples could come from a consolidated area?

DR. BARBIERI: Well, let me go -- Because I think a lot of these questions get answered as we go through this. There are some post-harvest reporting requirements, right, that are associated with this harvest as well, and then the harvest slot that was selected is twenty-four to thirty-six inches, and so only 200 fish within that twenty-four to thirty-six, and it's structured to protect the larger, older goliath grouper and not disrupt the spawning potential and rebuilding of the population age structure, right, and so we know that the stock, over time, has made progress, from the time that the fishery was closed, about thirty-two years ago, but we also understand that there is a need still to conserve and allow the older ages to start rebuilding, right, the age structure of the population, and so the age composition still doesn't show

the proportion of older ages that one would like to see.

This harvest strategy is based on basically juveniles, right, because they reach sexual maturity around that size of thirty-six inches, and they are actually harvesting before they reach sexual maturity, and keeping that number low, and you can see that graph there on the screen of how index abundance, the abundance of juveniles, from Everglades National Park, their angler survey, is actually -- It has shown quite a bit of progress, increased improvement, over time.

It has decreased, as a result of some environmental events, and, specifically, there was a very harsh winter in 2010 that impacted a lot of stocks in south Florida that are susceptible to that cold-event mortality, and goliath grouper was one of them, and you can see that right there on that index over time, but, since then, since about 2017 or 2018, you can see that the Everglades National Park survey seems to have bounced back up, and that the abundance of juveniles inshore seems to be trending upwards again.

Then, finally, scrolling down to the harvest season and area, they're set to protect goliath grouper spawning and prevent harvest of fish from spawning aggregations and from areas known to support heavy dive ecotourism, and so the dive industry has been very concerned with potential fishery impacts on this stock, because they take advantage of ecotourist trips, dive trips, at the international and national level trips, that is a major source of economic income to that sector.

This proposal included protection of goliath in those areas, as well as the areas that are considered to be, you know, mapped spawning aggregation sites for goliath. Now, John, to your question, in terms of the distribution of the tags, so they didn't all come from the same place, I actually don't know the detailed answer to that question, in terms of distribution of 100 for the Gulf and 100 for the Atlantic.

I know the Everglades National Park specifically has worked with FWC and requested that this harvest be limited to only fifty fish within the park, which, as you know, is right there in south Florida, right, and so I don't think that there are any constraints to the distribution of the tags in other areas of Florida, with the exception that you have a major closure, and the harvest area excludes state waters from Martin County in east-central Florida, pretty much, through the Atlantic coast, all the way through the Dry Tortugas National Park, and so a major area that's now considered to be holding individuals in spawning condition is closed, and harvest from those areas is not going to be considered.

SSC MEMBER: (The comment is not audible on the recording.)

DR. BARBIERI: Well, their abundance has increased up and down the coast, over time, as the stock recovered and their distributional range has expanded a bit, and, now, the center of abundance, in terms of adults and juveniles, seems to be in southwest Florida, and this is where you find the highest numbers of individuals, and the highest biomass, but there are areas, and the area in southeast Florida, that large area from Palm Beach all the way down into the Keys, where large individuals have been known to aggregate to spawn and form predictable, in time and space, spawning aggregations, and so this would prevent those fish from being targeted.

CHAIRMAN NANCE: Jason, I think you had a question.

MR. ADRIANCE: Thanks. Luiz, on your MRIP catch rates graph, how are you getting those in the recent years, where the fishery has been closed, and is that reported discards, or interactions?

DR. BARBIERI: It's basically reported discards, which, by the way, leads into this issue that, you know, all the data sources for this fishery are highly uncertain, right, because the fishery has been closed for so long, and we've had these three attempts, as Ryan mentioned, to conduct a stock assessment, and so two things there are we don't have the data series in place to conduct a quantitative stock assessment for goliath grouper, number one.

Number two, actually, their biology, ecology, and population dynamics make it really not suitable for what we consider typical stock assessments, in terms of how you focus on yield, because, you know, of their biology, special biological characteristics.

CHAIRMAN NANCE: Rich.

DR. WOODWARD: I am curious, and so you mentioned that they're going to be taking a sample, a biological sample, from the fish, and how are you maximizing the value of this tournament, if you would like, to gather data and information about the stock? I mean, it seems like an opportunity, and is there spatially-explicit identification of where the catch is, how long it took them to find the fish, and, I mean, it seems like there could be a number of opportunities here.

DR. BARBIERI: Right, and a lot of that information is being collected as part of this, you know, data reporting requirement associated with the harvest, but a biological sample as well, and, I mean, the people who receive the tag are going to also receive

a kit for providing tissue samples that are going to be used for genetic analysis of the stock, and so, parallel to this, FWC and FWRI has been conducting a number of studies that have to do with telemetry and ecology and connectivity of goliath grouper, and, in parallel to this as well, another one that is trying to focus on collecting genetic samples, tissue samples, for genetic analysis that potentially can be used for development of close-kin mark-recapture assessment of population size, at least in terms of the magnitude of scale of that population.

CHAIRMAN NANCE: Thank you. Trevor.

MR. MONCRIEF: Thanks for all the information on this subject, and just a side comment that that permit fee seems a fair amount steep for one fish, but that's not for us to discuss here. I will say, for this group, and for essentially what we're charged with doing, I think going down the road of looking into this further is a worthwhile exercise.

I have never seen, or heard, an answer of what it takes to reopen a federal fishery once it's closed, and I think, at times, it might be worthwhile to kind of go down this exercise, just to see what we can derive and see what kind of answers we get, because we don't know what's going to be coming in the future, and it might help us kind of plan for whatever happens in any of our species, and so that's my piece about it.

CHAIRMAN NANCE: Thank you, Trevor. To that point, Luiz?

DR. BARBIERI: Just briefly to that point, Mr. Chairman, and, yes, Trevor, and, actually, since this same motion was made at the South Atlantic Council, and this issue was discussed last month by the South Atlantic SSC, they are using this opportunity just exactly how you described it, to look not just at, you know, the current catch level recommendations for goliath grouper, but for other species, and, in that case, they have speckled hind and warsaw grouper there that have been closed for almost as long, and they don't know really how to get out of that situation, and there may not be a way for them to get out of that situation, but the SSC felt that it would be worth the effort to put together a working group that's going to be trying to discuss this issue, right, and I think it would be good for us to actually work with them, in that sense, and try to kind of put our heads together and see what possible scenarios could be considered, going forward.

CHAIRMAN NANCE: Okay. Trevor, to that point?

MR. MONCRIEF: So, given that's the case, what's the possibility

of having a joint working group to cover that subject, so we're not going down two parallel tracks?

DR. BARBIERI: I don't mean to speak for the committee, in any way, but I think that's an idea that is worth considering, Trevor, right, that we could pursue and take advantage of each other's expertise and knowledge and look at the situation, in terms of data availability for over there versus over here, and actually benefit from that.

CHAIRMAN NANCE: Thank you. Sean.

DR. POWERS: Luiz, you touched on it, but I'm just interested in -- The first question, and I have a second one after that, is what biological information are you going to get from a twenty-four to thirty-six-inch slot that you couldn't get -- I mean, why harvest, is I guess my question, is because you can take a fin clip, and I guess you an age the spines, from what I hear, and what information are you getting that you would want harvest for? Then the second part of that question is, is this a state-fisheries-biologist-driven request, or did you have some requests from fishermen?

DR. BARBIERI: I'm so glad that you asked that question, Sean, because I should have made that clear in discussing this issue, and the decision to harvest is exclusively a policy decision that the commission made, and so this is not a fishery that was developed for the purpose of data collection, right, and, in discussing all of this with the commission along the way, as this process developed, we explained to them that, for this size class specifically, we don't have a whole lot of data needs that could not be addressed some other way, and that, for 200 individuals a year, I mean, it's simple enough for us get our biologists to go and get that information, and so this was a policy decision by the commission, feeling that, after thirty-two years of closure, right, that it was worth considering a non-zero harvest for goliath grouper, given certain parameters that take into account the particular situation of this species, that you cannot have a completely open-access fishery with no restrictions.

I can tell you, unequivocally, that this is the most regulated fishery now in the State of Florida, and it's the only recreational, you know private recreational, limited-access fishery where you are required to buy the permit and have a harvest tag, plus the slot size, the area closures, and all the other constraints, and so this was really a decision by the commission to open some level of fishery that they felt, if they received some advice from us, from the Institute, that would say, okay, here are the parameters where you can actually have some non-zero

harvest that is unlikely to impact the health and recovery of the stock, and, when we gave them these parameters, they decided to abide by them.

CHAIRMAN NANCE: Sean.

DR. POWERS: Thanks, and thanks for the candid answer, and so the biological sampling is really you were presented with this, and that you figured -- You sat down with your biologists and said, if this is going to be done, what type of samples do we need, and, I mean, not that we need, but what type of samples could we use.

DR. BARBIERI: Yes, and, like what Rich brought up earlier, and, I mean, it's an opportunity, right? Now that you're going to have all these people distributed all over, you can collect all sorts of information, not just from the fish itself, but from the fishermen, right, about them as well that will be valuable to obtain.

CHAIRMAN NANCE: Jim.

DR. TOLAN: Thank you, Mr. Chair, and my comment was basically for Trevor, and, having served on the Special Red Drum SSC for a dozen years before I was here, I have asked that same question many, many times, how do we get it back open again, because I think everybody here can agree that, in the Gulf, the red drum has probably been rebuilt, and so they're doing pretty well, but, as far as getting it open, I don't know.

CHAIRMAN NANCE: Red drum, I mean, they probably collected more samples of red drum over the years than any other fishery, and so I'm not sure that --

DR. TOLAN: To that point, we tried, on SEDAR 47, to incorporate red drum as a data-limited species, and we got nowhere with it, because we didn't have the age and length compositions from the Gulf side, and we had all the state data in the world that you could deal with, but we just didn't have any Gulf data, and so thank you.

CHAIRMAN NANCE: Doug Gregory.

MR. GREGORY: Thank you, sir, and thanks, Luiz. I've got two questions, and the first one you can answer later, and this is, is the state -- Are you guys developing a research plan for this species, going forward? A more specific question is, with the twenty-four to thirty-six-inch sampling, the assumption, I guess, is most of them are juveniles and will stay in state waters, but

they could go into federal waters, and is there anything here limiting the fishermen from fishing in federal waters?

DR. BARBIERI: Yes. Legally, yes, and, now, I did not go into those details, Doug, but we have the goliath grouper notice of change and the rule language, the explicit rule language that FWC will be adopting, as part of the background information there, and that 11(d)(iii) and (iv), Numbers 3 and 4, are the documents that describe the parameters of this.

Because this is a fishery that's being managed by the State of Florida, in Florida state waters, yes, people fishing for this species in federal waters would be fishing illegal, and harvest would be illegal, and so that should be explicit in the rule, that this is limited to state waters. Does that answer your question, Doug?

MR. GREGORY: Yes, on the second question, and the first question was are you all developing a research plan, because it would be nice if there was some way to take advantage of this opportunity to collect data that could give us some insight as to the status of the population. You said you were doing other surveys, and so I suspect they have, or will be developing, a research plan, and that would be good to see, going forward.

My last comment is, with the South Atlantic side, from Martin County south to Key West and the Dry Tortugas being closed, I suspect most, over 90 percent, of the harvest is going to come from the Gulf waters, and I'm not that familiar with the Atlantic side, but I don't think there is many goliath north of Martin County, and so it's interesting, and I just hope we can take advantage of this. We've been frustrated by this fishery since the beginning, and it would be nice to get some insight as to the relative health of this species. Thank you.

DR. BARBIERI: If I may address that, Mr. Chairman, and, yes, Doug, and so, irrespective of this harvest, we have had, at the Institute, and you may remember Bob Ellis, a former Gulf SSC member here with us, and he now works at the Institute, and he's been leading that effort and some research projects on both the Atlantic and the Gulf that are focused on different life history stages, juvenile inshore and movement connectivity, interactions with other fisheries, acoustic telemetry for movement ecology, and understanding their spawning habitat changes as the population expands and recovers and how that could be impacting their choice in distribution to different spawning sites, as well as this directed effort to collect samples.

You may remember Mike Tringali, our molecular geneticist at the lab, that has been working on this, and he's run, over the last I would say three years or so, some preliminary samples, to kind of evaluate what the possibility is to develop this close-kin mark-recapture estimate, and we are moving forward with that.

As you know, the sample size requirements for that are pretty high, right, and so that is going in parallel, and it's just a separate sampling effort, but, yes, Doug, I mean, the idea is to learn more about the beast, yes.

MR. GREGORY: Thank you very much.

CHAIRMAN NANCE: David.

DR. GRIFFITH: This is a different kind of question, but is it mostly the dive ecotourism people who are pushing back against this kind of harvest?

DR. BARBIERI: Yes, absolutely. Yes, they are, and so they are concerned with the harvest, right, because they see that population as something valuable to them for non-consumptive purposes, right, and, I mean, it's something at the international level of relevance, how people come to dive, you know, next to a fish that is the size of VW Bug, right, and so it's something cool that generates a lot of good revenue for them, and so that's one concern, but they are also concerned, even beyond just this, and we are trying to address this as the next step in this process, but they are concerned about the catch-and-release mortality that may be happening, because charter captains, and certainly they are now specializing in goliath grouper trips that are non-harvest, and it's just catch-and-release.

They are concerned that, if this is happening along the Palm Beach area there, in some of those spawning aggregations that non-lethal impacts on spawning may be happening, and so we are trying to develop a study that looks into that specifically, for that reason, but, yes, they have been very engaged, from the very beginning, and they provided a lot of advice, in terms of area closures and other parameters for harvest, and so we didn't want to do something that was disruptive to them.

CHAIRMAN NANCE: A follow-up question, please?

DR. GRIFFITH: Well, if that is the case, I think that you would do well to have a social scientist on this committee that you're talking about forming, because we could maybe interact with the diving community and find out what their concerns are, but also

what kind of information they could provide to you about the species and what they're seeing and about habitat and things like that. Thank you.

DR. BARBIERI: Absolutely, and we actually have hired, over the last couple of years, Dr. Chelsea Crandall, who came on at Kai Lorenzen's lab, right, and she just started at the Institute, at the Center for Social Studies at the Institute, and she is spread thin, because everybody wants a piece of Chelsea, right, because we don't have that many on staff, but Chelsea has been engaged in this process at this point, just kind of on an advisory role, but the idea is that there will be opportunity for those kinds of things that interact more with social scientists that can do more, yes.

CHAIRMAN NANCE: Perfect. Will, please.

DR. PATTERSON: Thanks, Mr. Chair. Luiz, thanks for bringing all of this information to us. I've been following this, in Florida, for a little while and talking with folks in the Tallahassee area about whether this might or might not happen.

I'm interested in this idea about the slot, and so it's my understanding that the slot was put forward to protect larger, older spawners, but, also, potentially because of mercury concerns in bigger fish. I don't actually think the harvest slot is going to minimize barotrauma, because the larger fish in a given species tend to be more susceptible to barotrauma, and so the biggest fish caught here are going to be released, assuming that some fish outside the upper slot are caught, and I imagine, for goliath, that's pretty likely.

Not that they're not already caught and discarded in the catch-and-release fishery, but I'm not sure that that harvest slot will actually minimize barotrauma, but my question has to do with the samples you plan to take, and, obviously, you've kind of gone through the list of various projects that folks at the Institute are interested in, but, given the uniqueness of this opportunity, I'm wondering if FWC has a plan to form a group that, you know, folks, scientists, can interact with the leadership there and propose samples to be collected from these fish.

This fishery is still about a year away, and it just seems like this is -- These 200 fish are going to be precious, and I'm wondering if, you know, maybe there is some analyses or data collection possibilities out there that just the in-house folks may not have yet considered and that forming a group of scientists, or just having a way for scientists to interact, to try to

potentially collect samples, might enhance the value of these fish beyond things that have been considered to this point.

DR. BARBIERI: May I? Thank you, Mr. Chairman. Yes, Will, and, I mean, as you know, I mean, we're always open to starting those types of collaborative projects and partnerships, and I think that your idea is spot-on. Maximizing the type of scientific products that we get out of these fish is a plus, right, and why not, and so we don't have, at this point, anything formally put together to that effect, but I will be more than glad to get together with you, and others, at any time and, you know, expand the circle a little bit of some of the other folks, and Bob Ellis and others, and Phil Stephens and others, have been involved in this data collection process, and we can have that discussion, Will. Absolutely.

DR. PATTERSON: Thanks, Luiz.

CHAIRMAN NANCE: Trevor.

MR. MONCRIEF: I think Jim is kind of reading my mind on the direction that I was talking about, and I do appreciate the conversation of treating these fish as precious and trying to get as much information as possible, and I think that's pertinent. I am just kind of going to go back to these questions that have been raised for a couple of decades at this point.

Both sides, I think as a group, or at least on my end, we would be remiss not to take advantage of the momentum that this program is going to have, and what the South Atlantic is already doing, to try to come up with some sort of options, or at least, you know, provide a pathway to let the council make these decisions on if they want to reopen a fishery or not.

CHAIRMAN NANCE: Thank you, Trevor. Sean.

DR. POWERS: Luiz, did FWC formulate any kind of biological opinion or analysis when you all were presented with this? I am getting at, exactly, if we were to set an OFL or ABC, is there any guidance on where we should set that?

DR. BARBIERI: Yes, and we put together, and those can be made available to folks, and we put together a white paper, of sorts, that sort of describes what the main scientific issues here at-hand are, right, but, because of the nature of this harvest, being small and being so constrained, and the fact that we don't really have any real quantitative information, or otherwise, to really come up with some estimate of what would be, right, a viable level

of harvest, and, actually, I think, as part of your packages, or it should have been there, and, if it's not, I can distribute it, but Clay Porch and I wrote a white paper.

This was maybe fifteen years ago, and it considered a number of, you know, parameters, at the time, that could be used to generate some harvest, you know what would be a sustainable harvest, given certain parameters there.

In this case here, that was not possible, and the idea here was different, and it was really to say, okay, use your expert judgment to make some decisions, knowing fisheries biology, ecology, and population dynamics, and what would be the right call, in terms of keeping the numbers low, small, right, and keeping the size range within that phase of life where natural mortality is already, you know, likely to remove a large number of individuals, right, before they reach sexual maturity and protecting the areas where they could be aggregating to spawn. Those were the main criteria that were used to kind of generate that number, and even go beyond that, and it was more like an expert judgement call.

DR. POWERS: I mean, that's what I was getting at, and why 200? I mean, why not 300, or why not 100, but, essentially, at some point, you didn't have enough data, and it was expert judgement.

DR. BARBIERI: Right.

DR. POWERS: Okay.

CHAIRMAN NANCE: Cynthia, please.

DR. GRACE-MCCASKEY: Thank you. I am just curious, and, given that this would be harvest that's allowable in state waters, as opposed to federal waters, and, yes, of course, there will be different rules and different laws, but what is to actually say -- How do we know that fishers aren't going to fish in federal waters and say that they caught it in state waters? Is that a concern of the commission, or has that been taken into consideration?

DR. BARBIERI: That's a good question that I am not very well prepared to answer, Cindy, because this is more of like a management and enforcement area, right, that goes beyond my expertise, really, but, obviously, the idea is that law enforcement is going to be vigilant to this, right, and that, when you have something that's this constrained, that there will be assurances that the areas that are closed are closed.

It's difficult with, I guess, any fishery that we have, right, to really enforce that fish are caught in state versus federal waters, but we do have, you know, a very large -- I guess it's the largest law enforcement force in the country, really, in Florida, for marine law enforcement, and we have partnership with the feds, with the Coast Guard and with the NMFS Law Enforcement Office.

CHAIRMAN NANCE: I think Texas is bigger, but --

DR. BARBIERI: Is that right? You tell me, Jim.

CHAIRMAN NANCE: I think Trevor may be able to --

DR. BARBIERI: But I think this is a valid point, Cindy, but I just don't know, really, how those things are handled, from a law enforcement perspective. Honestly, I just don't.

CHAIRMAN NANCE: Trevor, to that point?

MR. MONCRIEF: Not to speak for the State of Florida, by any means, but it's kind of going to go under the same direction as all of your fisheries, like Luiz mentioned, and that law is essentially possession, and, if you are in possession of a species that is not allowed for harvest, in an area that you cannot harvest that species, then they will be ticketed.

The thought of individuals capturing those fish and going to federal waters to fish, they will be cited for possession of that fish in federal waters. If they catch it in federal waters, and are in possession of it, then they'll be cited for it, and so that law will be consistent, I'm pretty sure, across-the-board.

CHAIRMAN NANCE: Red drum, in each of the states, is the same type of deal, and they're only allowed to be caught in state waters. Ryan.

MR. RINDONE: From a federal perspective, we have transit provisions for certain species, and so like an example is king mackerel, and you're allowed to transit through a zone that is closed to harvest with king mackerel that were harvested in a zone that is open to harvest, but you cannot stop, and there are no excuses of, oh, we thought we saw something floating in the water, and we went to go pick it up, or something like that.

It's like you may not stop, and you must be transiting with all gear stowed, that kind of thing, and, in this case, with what's been described for the State of Florida, you can't even do that. If you go fish -- If you get a harvest tag for goliath, and you go

fishing for that fish, and you catch and tag that fish -- At that point, it probably would be in your best interest to return to the dock immediately, before doing anything else or suffering engine trouble and floating into federal waters or a closed area or anything like that.

CHAIRMAN NANCE: David, please.

DR. CHAGARIS: I have a couple of comments and a question. I'm not as concerned about the compliance issue, because, I mean, the people that are going to go out and get these tags, they're investing in going out and catching this fish, and we can expect that they're going to be pretty educated on the rules and are probably going to abide by them.

The other comment I had was that a lot of the language of this sounds like -- Sean mentioned reference points and when we might be able to get those on the books, but a lot of the language in this, with the slot limit, is sort of implying that we might want to think about an escapement-based approach, like we do with red drum.

I don't know, and it might take some time to get the data and the models to be able to do that, but that's probably what we want to think about, if state waters are going to continue to be open, but federal waters are not, to protect the spawning stock, but the question I have for you is what sort of timeline for revisiting this 200-fish policy -- Like when are they going to revisit that, and do you get the sense that, you know, if it goes well, that they're going to expand that, or they just want to hold this number for an extended period of time?

DR. BARBIERI: Well, let me start with the last question, and I haven't heard anything about expansion of this beyond what is on the table right now, and, of course, it's impossible to predict the future, right, and anything is possible, but I can tell you that, at this point, I haven't heard anything to that effect, right, that this is basically what it is, and I don't know, and perhaps one of my colleagues from the management side of the house that might be on the webinar could jump in, if you allow them, Mr. Chairman, to answer that question about the timeline for this.

My understanding is that this rule is in place, and this rule has no expiration date at this point, right, and that this is going to be there until the commission decides to change it, and this may not be the case, but, you know, usually those things are not set -- Unless you're setting up an experimental fishery, an EFP kind of thing, and mostly it doesn't have an expiration date, and I

didn't hear anything explicitly from the commissioners, when this presentation was made during the final rule approval, that this was the case, and so I imagine that this is going to stay until they decide to change it, and I haven't heard anything about changing the parameters that are applied here.

CHAIRMAN NANCE: Thank you. Will.

DR. PATTERSON: I just had the same question that Dave asked, about what criteria will be used to evaluate the success, issues, potential harm of the fishery, and how that will be worked into it, and so thanks, Luiz.

CHAIRMAN NANCE: C.J.

MR. C.J. SWEETMAN: Hi, everyone. C.J. Sweetman here with FWC. As of right now, there are no plans to further revisit this, and this was just put into place in March, and so there are no plans to expand this, and, currently, we're just going to wait and see how this goes and evaluate from there, but, at the current moment, there are no plans to expand upon this rule.

CHAIRMAN NANCE: Thank you.

DR. BARBIERI: Thank you, C.J.

CHAIRMAN NANCE: Rich.

DR. WOODWARD: I just wanted to point out that there is an opportunity here to also gather some economic data. You could find out how valuable this fishery is. I mean, if you think about this, and compare it to trophy hunting for lions in Africa, and they sometimes sell those permits for $100,000, and that suggests -- I mean, we could find out the value of this fish, and, even if the biology can't sustain more than ten, that might still result in a substantial income and value.

DR. BARBIERI: Just to that point, Mr. Chairman, and thank you. Yes, Rich, and, actually, there has been a study, I believe out of the University of Miami, a PhD, I think, project, that was completed several years back, that was looking at this issue exactly, about the willingness to pay for a limited harvest tag, or permit, for goliath, and they considered a whole number of different scenarios, and so that work has started, and perhaps this is an opportunity to expand on that.

CHAIRMAN NANCE: Any other questions from the SSC on this issue? Trevor.

MR. MONCRIEF: I submitted a motion to the email, and I wanted to put it up and get it seconded for discussion, but I think it kind of keeps us moving on this item. It was written in somewhat haste, and so forgive me if there's issues with it, but, essentially, this goes to kind of what we had talked about, and, since the momentum is already there on the South Atlantic side, just to consider maybe adding a couple of Gulf representatives there, to have something more cooperative and sort of moving in a tandem path.

CHAIRMAN NANCE: Absolutely. Let me read the motion. This is the motion by Trevor. **For council staff to consider adding representatives from the Gulf SSC to the South Atlantic SSC workgroup, in an effort to develop a cooperative workgroup focused on establishing OFLs and ABCs for goliath grouper and other federally-managed species currently closed to harvest.** Do I have a second for that motion? Is that Paul? Thank you. Is there discussion? Jason.

MR. ADRIANCE: Thanks. This is for Trevor, and so, earlier, you were talking about the process, and is this more aimed at getting at that process or actually establishing OFLs and ABCs, like it mentions, or would it be more towards the mechanism for opening those fisheries and getting to those? I don't know if that's nitpicking.

MR. MONCRIEF: Yes, and, I mean, that's kind of the focus here, is getting the mechanics and the pathway behind it, and so, should the issue ever come up, there's a defined pathway to be able to build toward, prior to that consideration, and everyone is not sitting there shellshocked, considering what do we have, what can we get, what do we need to get, and what is sufficient. If there's a way to alter that motion to more explicitly state that --

CHAIRMAN NANCE: I don't know if would be something like "focused on mechanics", or something, because you're not going to be establishing OFLs and ABCs in this workgroup, but you're looking at how that can be done, and Ryan is a good wordsmither.

MR. RINDONE: First, let's change "for council staff" to "for the council". For as much as I tell you guys what I would like you to do, ultimately, it comes from the council.

MR. MONCRIEF: I just figured it was you.

MR. RINDONE: So "for the council to consider adding", blah, blah, blah, and perhaps "focused on establishing a method for evaluating

catch limits for species currently closed to harvest", or you could leave "federally-managed" in, and that's probably appropriate, and so "for federally-managed species currently closed to harvest, including Southeastern U.S. goliath grouper".

The reason, Trevor, why I changed so much of it is because, like in the Gulf, rock hind and -- Is it warsaw and speckled hind in the South Atlantic, and so like they're not closed in the Gulf, but they are in the South Atlantic, and so there are some disparities in the species that are closed that each council might want to consider exploring, and this particular workgroup might have the potential for the Gulf and the South Atlantic participants in it to help advise one another's respective management councils on how to approach things for different species, because the circumstances and the data available may differ, and so leaving it a little bit more open-ended, but adding that last "including Southeastern U.S. goliath grouper" keeps it germane to this discussion, but the bulk of it leaves it open-ended for whatever species to which it might be useful.

MR. MONCRIEF: Yes, and I think --

CHAIRMAN NANCE: Trevor, are you okay with that change?

MR. MONCRIEF: Yes, I'm comfortable with the change. I think it's -- To me, since they establish a workgroup, and they have more species under consideration, they will be kind of driving it, while we would be in the background providing information that we deem necessary and kind of getting an established pathway.

CHAIRMAN NANCE: Thank you. Paul, are you okay with that change? Okay. Thank you. Any other discussion on this item? Doug.

MR. GREGORY: This is I guess for Luiz, and I was just trying to look at the South Atlantic document that is in our background material, but it's two-hundred-and-some pages long, and what is the specific charge? I am uncomfortable with this unless I know what we're jumping into. They have a charge, or will have a charge, on something to do with goliath grouper, and we should know what that is before we ask to join them.

CHAIRMAN NANCE: Luiz, please.

DR. BARBIERI: Not to put Judd on the spot, but Judd Curtis, who is the assigned SSC staff to the South Atlantic SSC, is on the webinar, and he, just like Ryan did for us here this morning, he introduced this issue to the South Atlantic SSC and guided that discussion, or helped them guide that discussion, and so, Judd, if

I can put you on the spot here, and I know all of this is very recent, and, at this point, it's really kind of trying to express a desire to put together this workgroup, and I don't think that all the details have been worked out, but, Judd, if you know more, and can help us with this, that would be great.

CHAIRMAN NANCE: Judd, please.

DR. JUDD CURTIS: It's good to hear some familiar voices, and so, to Doug's point, we had the same charge, as far as a council motion, to have the SSC revisit the ABC equals zero for goliath grouper. As Luiz mentioned, one difference here is the OFL for the South Atlantic region is set as unknown, whereas, in the Gulf, it's set to zero, and so that's one discrepancy as well that we might need to work through.

As far as the workgroup is concerned, we have an unassessed stocks workgroup that is already set up, and they were tasked with a brainstorming of some new, and perhaps some nontraditional, approaches to assessing goliath grouper and any other species with an ABC equals zero, in this case for the South Atlantic speckled hind and warsaw grouper.

There was a lot of discussion about, you know, turning this into a potential joint workgroup with the Gulf, knowing that the same motion was going to come down at the Gulf Council meeting a month later, and so I appreciate this discussion, and I think this would be very beneficial for both councils and both SSCs, to establish this joint workgroup. Thank you.

CHAIRMAN NANCE: Thank you. I think that's very well -- That's very good. Luiz.

DR. BARBIERI: Thank you so much, Judd, and that was really helpful. I appreciate it.

CHAIRMAN NANCE: Doug, did that answer or address your question?

MR. GREGORY: Yes, it does, and part of my concern is I have been, I guess, involved with goliath since the 1990s. I mean, I wrote Amendment 1 and Amendment 2, and it was not easy. We didn't have a whole lot of data, but it made sense to do the right thing, because it was so easily harvested, and it's been frustrating to have it closed for so long, but I just don't want it open to be open, and I just want management to work.

I've been involved in so many of these workgroups and SEDARs and stock assessments that really don't go anywhere, and so it would

be nice to think that this is a game-changer, but I had a question for Luiz. Since we have an ABC of equal to zero, don't you -- Doesn't the State of Florida have to go get an experimental permit, or some sort of permit, from National Marine Fisheries Service to conduct this fishery?

DR. BARBIERI: No, Doug, not in state waters. This is the type of conversation and communication that FWC Marine Fisheries Management leadership, Jessica McCawley, has been having with the Southeast Regional Office and Andy Strelcheck, and, in that conversation, Andy was explicit about the fact that, despite all the provisions of Magnuson, and the fact that the ABCs are really supposed to be extended over the entire range of the stock, under that management plan, that the federal government prefers not to interfere with management in state waters, basically because of a jurisdictional issue. The state, here, can actually conduct this under its own jurisdiction, if it is in state waters exclusively.

MR. GREGORY: Thank you.

CHAIRMAN NANCE: Okay. Any other discussion on this motion? Judd.

DR. CURTIS: Thanks, Jim. Just kind of to Doug's point, a lot of the discussion at the South Atlantic SSC centered around those same concerns that you voiced, that the traditional stock assessments for goliath were rejected, through the review panels or SSC review, and so how do we get around that, when we don't have, you know, any more recent catch time series or other things that we can use to actually do a more typical stock status determination, and so that's, again, part of the focus of this workgroup, is to try to come up with a process to attack some of these concerns, where you don't have a traditional stock assessment process to develop ABCs. Thanks.

CHAIRMAN NANCE: Thank you. Any other discussion? Okay. Let me read the motion, and then we'll go ahead and vote on it. **The motion is for the council to consider adding representatives from the Gulf SSC to the South Atlantic SSC workgroup in an effort to develop a cooperative workgroup focused on establishing a method for evaluating catch limits for federally-managed species currently closed to harvest, including Southeastern U.S. goliath grouper.** Let's go ahead and take a vote on this, Jessica.

MS. MATOS: Steven Scyphers.

DR. SCYPHERS: Yes.

MS. MATOS: Jim Nance.

CHAIRMAN NANCE: Yes.

MS. MATOS: David Griffith.

DR. GRIFFITH: (Dr. Griffith's response is not audible on the recording.)

MS. MATOS: Luiz Barbieri.

DR. BARBIERI: Yes.

MS. MATOS: Michael Allen.

DR. ALLEN: Yes.

MS. MATOS: Cindy Grace-McCaskey.

DR. GRACE-MCCASKEY: Yes.

MS. MATOS: Peyton Cagle.

MR. CAGLE: Yes.

MS. MATOS: Jason Saucier.

MR. SAUCIER: Yes.

MS. MATOS: Donald Behringer.

MR. BEHRINGER: Yes.

MS. MATOS: Jason Adriance.

MR. ADRIANCE: Yes.

MS. MATOS: Harry Blanchet.

MR. BLANCHET: Yes.

MS. MATOS: Benny Gallaway.

CHAIRMAN NANCE: I think Benny is absent.

MS. MATOS: Okay. Paul Mickle.

DR. MICKLE: Yes.

MS. MATOS: Will Patterson.

DR. PATTERSON: Yes.

MS. MATOS: Richard Woodward.

DR. WOODWARD: Yes.

MS. MATOS: Jim Tolan.

DR. TOLAN: Yes.

MS. MATOS: Sean Powers.

DR. POWERS: Yes.

MS. MATOS: Trevor Moncrief.

MR. MONCRIEF: Yes.

MS. MATOS: Doug Gregory.

MR. GREGORY: Yes.

MS. MATOS: David Chagaris.

DR. CHAGARIS: Yes.

MS. MATOS: John Mareska.

MR. MARESKA: Yes.

MS. MATOS: Jack Isaacs.

DR. ISAACS: Yes.

MS. MATOS: Luke Fairbanks.

DR. FAIRBANKS: Yes.

CHAIRMAN NANCE: Okay. Thank you. We'll go ahead, and I think that ends this discussion. I appreciate the discussion, and now we'll move into Other Business. Matt, we had the Other Business, which you mentioned at the beginning of our meeting.

OTHER BUSINESS

DR. FREEMAN: Sure, and thank you, Mr. Chair. At the April council

meeting, there was a motion to convey to the Science Center the support of the formal inclusion of the appropriate SSC members, council staff, and shrimp industry representatives, in the development of the shrimp EDMs, or empirical dynamic models, outside of formal SSC review and prior to the SEDAR research track.

If you may recall, there was a presentation on applying empirical dynamic models to Gulf shrimp given to the SSC at its March meeting, and then it was presented, later that month, to the Shrimp AP, and so this motion actually originated from the Shrimp AP, and it was something that the council then acted on, and so, in relation to that, we are seeing if there are two to three volunteers who we could submit those names, when we send a letter to the Science Center.

CHAIRMAN NANCE: Do we have any volunteers that would like to participate in this working group? I could participate, and, with EDM, I'm not going to be able to help at all there. What I would be able to at least, from a historical shrimp perspective, is be able to give something, and I know that Dr. Gallaway said that he would like to participate, also. Doug Gregory would like to, and it looks like his name is there.

MR. GREGORY: I am not volunteering, Mr. Chair, but I have a question.

CHAIRMAN NANCE: I thought you were just volunteering. You can't ask questions in this part.

MR. GREGORY: No?

CHAIRMAN NANCE: Go ahead, Doug. I am just kidding you.

MR. GREGORY: Between you and Benny, you've got the shrimp expertise, and is there anybody on the SSC who is familiar with or has experience with empirical dynamic modeling?

CHAIRMAN NANCE: Yes.

MR. GREGORY: That would be very helpful.

CHAIRMAN NANCE: That would be, because I go in there, and I am listening, but I'm not very good at the models and so forth. David.

DR. CHAGARIS: I have a little bit of experience with EDM, but I had a question more about the timing, and so you said that this initial group is going to work before the research track assessment

gets started, and so we wouldn't be like required to do a week-long data workshop in Gulfport?

DR. FREEMAN: I do not -- Given that I am listed as the council staff on it, I do not assume that will be happening either, and, again, this is simply going to be a request to the Science Center, and so we don't even know that they will accept this request.

CHAIRMAN NANCE: David, the way I understand this is they are -- The Science Center is working on building the EDM for shrimp, and so I think Benny and I could at least help in historical shrimp stuff that may give them some guidance, but I would like to have, if you're familiar with that modeling, is -- Maybe, as they develop that model, you could give some guidance, some expertise, into that. It's not going to be sitting in a room for a week doing this, but I think it's just providing guidance as they go through this.

DR. FREEMAN: Right, and so it's geared more towards providing some additional feedback, because part of the concern -- Let me back up one step, just as a reminder, and the SSC is tentatively going to receive an update on that presentation that you all saw in March later this fall, but part of the concern, from the AP, was, and I think this was also conveyed during the council meeting, but a concern of we don't want to wait until the product is complete and then have concerns about it, and so, if people can provide feedback as the process is going, that would be great.

DR. CHAGARIS: I will volunteer.

CHAIRMAN NANCE: Thank you.

DR. FREEMAN: As Dr. Simmons added, these are anticipated to be virtual meetings as well.

CHAIRMAN NANCE: Yes, and I look at it -- It's kind of like when we're sitting on those stock assessment working groups, and we see products and those types of things, and we have maybe a one-hour, or two-hour, meeting to talk about those as they're being developed, and I think that's kind of how I envision this. Not a lot, but just as they go through the process. John.

DR. FROESCHKE: I guess a couple of thoughts on this, and I have limited experience with the EDM, although it wasn't entirely positive, and I guess one thing that I'm just thinking about though is, essentially, it's a parameter-free forecasting approach, and there are other approaches, like for example ARIMA or something, that are more embedded in other fields, in terms of time series

forecasting, and it would be nice to have some comparison of what the advantages of this are that's probably not widely understood, versus something that probably is more, I guess, traditional that could be understood.

The other point of this is, unlike other processes that we've done, it's my understanding that the EDM, or whatever we would use, is going to be used in reference to already established benchmarks, and so, if that's the case, you could forecast the biomass with any number of methods, and, I mean, the principal advantage of EDM is that you can't predict the covariates that you might use, which is why -- But there are perhaps other ways you could try to think through this, and at least it would make it more clear what the EDM is doing, because I had to think about that, and, if that's not correct, then I hope someone will fix my understanding, but the idea that the MSY benchmark is established outside of this, and may not be evaluated as part of this, seems quite different from other things that we typically do.

CHAIRMAN NANCE: I'm not sure, and Katie may be able to address this, but the way that I understand it is the benchmarks for shrimp were developed through Stock Synthesis, and, since Stock Synthesis is not being utilized for this new assessment, those benchmarks would be developed through the EDM process.

DR. FREEMAN: I will just add that that's my understanding as well, Jim.

CHAIRMAN NANCE: Katie. Can you make sure that I'm speaking correctly, Katie?

DR. SIEGFRIED: Hopefully I heard all of that, Mr. Chair. Right now, we are not entirely sure that EDMs will produce the benchmarks that we need, the status determination criteria, and that is still to be determined, through the end of this research project, and so, as we head into the research track, we want to consider a suite of models, and I promise, to Dave, that, if you volunteer, that we won't meet in Gulfport for a week. We would really appreciate any input, as the EDM is being developed, towards calculating those benchmarks, but, at this point, we're not yet sure that that will be sort of the panacea that everybody is looking for.

CHAIRMAN NANCE: Thank you, and I think we won't meet anywhere for a week, right?

DR. SIEGFRIED: Right, and we can do it on the phone, for the most part, sort of these webinars, and we can be flexible with everybody's schedule, if it's not something that has to be noticed.

If it's something that needs to be noticed, we would just, you know, figure that out, through council staff, but we could certainly meet outside of that. Steve Munch is developing those models with his post-doc, and he already expressed interest in looping other people in, to make sure the development is going well.

CHAIRMAN NANCE: Perfect. Thank you. John.

DR. FROESCHKE: I guess, as a follow-up, just thinking through this, whatever comes out of the EDM, or whatever, is only going to be meaningful in terms of reference to that benchmark, and I guess I was just a little concerned that we might not give as thorough consideration to what that appropriate benchmark is as to how we evaluate the model. Given that that's the case, if we were to wildly change our perception of the benchmark later, it could lead to a total different perception of where the shrimp fishery is.

CHAIRMAN NANCE: I think this is a research track, to be able to look into that.

DR. FREEMAN: Right, and, the last I saw, the research track for shrimp is slated to start in 2023. All right. Well, I've got three names, and so thank you for volunteering.

CHAIRMAN NANCE: Thank you. Any other items of business? We'll go ahead then and adjourn. I'm sorry. We need to do public comment. Thank you, Ryan. Eric and any others on virtual that would like to participate in public comment. Captain Eric, we're glad you're here.

PUBLIC COMMENT

MR. ERIC SCHMIDT: I haven't seen you in, what, four days? I did listen to your shrimp comments earlier, and I will let you know, on an economic standpoint, most of the shrimp boats in Fort Myers, and Fort Myers, I believe, at one point, was the third-largest shrimp port in the Gulf of Mexico, and they're all tied to the dock. They can't afford to go shrimping. We have record diesel prices, and even exempt from road tax, and I believe the fuel dock is at $5.80, and so they're not shrimping.

The reason I came today, and I can't actually believe that I am standing here, and I am going to address the council, or this body, and say what's about to come out of my mouth. I don't want you to open up goliath grouper.

This is probably the first time in twenty-five years that I have

come to meetings and have told you not to open up a fishery. They are really -- In recent years, yes, in southwest Florida, they have become a nuisance, but we have adapted, and we don't go to fish the wrecks where they're at, and we go do other things.

However, what it has created, because of management regulations, and, you know, you shutting down red grouper and lane snapper last year and me not being able to do anything for three months, is it's created a new occupation, and we sell fishermen on going and catching the biggest fish you've ever caught, and I can go catch that fish three or four or eight or twelve times, and I make more money on that fish when it stays in the water than if it were extracted, plus, dealing with a 300-pound fish is kind of a pain.

You know, you've got to have enough ice, and you've got to do this, and you've got to do that, and then you've got to fillet it up when you get back to the dock, and that's another two hours added to your day, and, yes, I will say that, since they've been closed, they're really -- The population has exploded.

I did a survey with Anne-Marie Eklund out of the Science Center, several years ago, and I have video of when they did I think sixteen dives in a two-day period, and, the first dive, they probably counted ninety on one wreck, and it was -- There is no shortage of them, but I'm just going to say that I really don't want them open.

It's one of the -- I tell my customers that you get five questions a day, and every additional question is going to be ten-dollars, and so, usually, it's how far, how fast, how deep, do you catch any sharks, and then, if they're local customers, they'll ask about whether or not you should -- Whether jewfish should be open. I don't want them open, and just leave them the way it is.

Now, I did agree with Trevor's assumption of exploring this, because, at some point in time, we're going to go down the rabbit-hole that some other fishery is going to be closed, at the federal level, and that is a very good point that you brought up, and so that's all.

CHAIRMAN NANCE: Thank you. Any questions from the SSC for Captain Schmidt? Okay. Thank you very much. Captain Zales.

MR. ZALES: Good afternoon. On red grouper, and I've got more of a question, I guess, than a comment, because apparently they've gone back and relooked at 42, with the MRIP-FES data, and so my question would be, when 61 was done, I'm assuming it included the information from 42 before FES, and so, with FES now added for 42,

and changing it somewhat, what would that impact be, if any, on 61? I don't need an answer now, but, if somebody has got a quick answer, that would be good.

On jewfish, contrary to Eric, and this goes way back into the 1990s, when I was on the Reef Fish AP, and Bob Spaeth was on the Reef Fish AP, and we were bitter enemies at the time, and Doug can kind of testify to this, but the one thing that we agreed on, at almost every AP meeting, and the AP passed this at every one, was to have some kind of scientific research catch of jewfish, because, once Don DeMaria came in there and killed them all diving, and wanted them shut down, they've been shut down ever since.

From all the scientific stuff that I have learned over the years, unless you've got a body to look at, to determine what's going on with that body, how can you really get any kind of a stock status of that fishery?

The State of Florida, what they're passing, they've got a slot limit, and I don't think there's any three-hundred-pound jewfish in that slot limit, and so I'm not worried about that too much, and, also, years ago, the definition of "possession of fish" came up, and, in talking to a couple of NOAA attorneys, their interpretation of possession was, when that fish is on my hook, it's in my possession until such time as I let it go.

All this stuff going on today, technically, I would assume, is illegal with these catch-and-release things with jewfish, because you're not supposed to have one in your possession, but, until you let it go, it's there, but, anyway, I appreciate the fact that they're looking into this, finally, after so many years of trying to get some kind of determination on jewfish, because they're thick in the Panama City area, and Corky Perret, years ago, showed some jewfish caught off platforms off Louisiana, and, from what I understand, they're back over there, and so there is clearly plenty of them to play with to try to get some information to see what their status is and what we can do, and so, other than that, that's all I've got. Thank you all very much.

CHAIRMAN NANCE: Thank you, Bob. Ryan, please.

MR. RINDONE: Thank you, Mr. Chair. Hi, Captain Zales. Just to your question about the relationship between the analysis that was done with SEDAR 42 and its impact on SEDAR 61, and just to clarify that for you, there is absolutely zero impact on SEDAR 61 and its result as a result of the work that the Center did for the council and the SSC on SEDAR 42.

MR. ZALES: Okay. Thank you.

CHAIRMAN NANCE: Perfect. Steve Atran, please.

MR. STEVEN ATRAN: I wanted to mention, for goliath grouper, that, right now, the status of stocks is listed as overfished unknown and not undergoing overfishing. I think, if Florida goes through with this limited harvest that they're talking about, it may be necessary for NMFS to reclassify the stock as undergoing overfishing, since you have a zero ABC right now. If that happens, the council is going to be required to do something, and I don't know what it can do, other than maybe say you're not supposed to do this, but they're going to have to respond in some way, and so I just wanted to let you know that.

Then the other thing is, if you get this joint SSC workgroup together to talk about goliath grouper and some of the other species, it occurs to me that, with FWC's emphasis on harvesting just the juveniles, what you've actually got is an escapement-based management program here, and it's like with red drum, and we harvest the juveniles that are in state waters and allow -- After they reach a certain size, allow them to escape into the spawning population.

Also, FWC has a Tropical Marine Life Rule, where some of the tropical fish, and I think like queen angel, and I'm not sure what else, has a maximum size limit, to ensure that only the juveniles are harvested and the adults are left in the water to be able to spawn, and so, if you're trying to think of some innovative ways to manage goliath grouper, that might be one way to go, and I think there is good rationale for only allowing the juveniles to be harvested, especially when you think about things like mercury levels, but I haven't heard anybody talk about perhaps this approach to managing them, and it might be something worth considering. That's all I have to say.

CHAIRMAN NANCE: Mr. Atran, thank you. Any questions from the SSC? We appreciate you being on the call. With that, we'll go ahead and call this meeting adjourned. I appreciate each of you here, and it was nice to see faces again, and it was nice to be able to have that interaction, and so, anyway, I guess we'll see each other in July. Luiz.

DR. BARBIERI: Just real quickly, Mr. Chairman, and thank you, on behalf of the committee, for all the hard work here, herding the cats and getting us moving along this agenda, and I really appreciate it.

CHAIRMAN NANCE: Now I will release you. A lot of you came for both meetings, and so, anyway, thank you.

(Whereupon, the meeting adjourned on May 11, 2022.)

- - -