SOUTH ATLANTIC FISHERY MANAGEMENT COUNCIL

SCIENTIFIC AND STATISTICAL COMMITTEE

Webinar

February 11, 2022

TRANSCRIPT

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Dustin Addis
Dr. Walter Bubley
Dr. Jie Cao
Dr. Scott Crosson
Dr. Chris Dumas
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Dr. Yan Li
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Dr. Fred Scharf
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Dr. Fred Serchuk
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Attendees and Invited Participants

Rick DeVictor
Shep Grimes
Dr. Jack McGovern
Monica Smit-Brunello

Additional attendees and invited participants attached.

The Scientific and Statistical Committee of the South Atlantic Fishery Management Council convened via webinar on February 11, 2022, and was called to order by Dr. Genny Nesslage.

INTRODUCTION

DR. NESSLAGE: Welcome, everyone, and good morning. This is the February meeting of the South Atlantic Fishery Management Council's Scientific and Statistical Committee. My name is Genny Nesslage, and I'm fisheries faculty at the University of Maryland Center for Environmental Science Chesapeake Biological Lab and chair of this committee. I would like to begin with introductions, and we have one new member, and so I'm excited to welcome Kai Lorenzen to our team, and so I think it would be nice if we started with Kai, and then we'll go down the list in alphabetical order there. If you could just introduce yourself, give us your name and your affiliation, and then we can get your voice recognition for the minutes, and so, Kai, do you mind introducing yourself?

DR. LORENZEN: Thank you, Genny, and good morning, everyone. Kai Lorenzen, and I'm a Professor of Fisheries at the University of Florida and the leader of our Fisheries and Aquatic Sciences Program, and, as Genny said, this is my first time on the South Atlantic SSC. I have served on the Gulf for over thirty years, and I will leave it at that, and I am very excited to be here. Thank you.

DR. NESSLAGE: We're excited to have you. Thank you very much for joining us, and, if you have any questions, please feel free to speak up as we go through the meeting today. Then we'll start at the top, with our Vice Chair, Jeff Buckel.

DR. BUCKEL: Good morning. Jeff Buckel, North Carolina State University, and I just want to second Genny's comment. Welcome, Kai, to the group. Thank you for joining us.

MR. ADDIS: Hi. Dustin Addis, Florida FWC, FWRI, and I'm the lead of the Stock Assessment Group.

DR. BUBLEY: Wally Bubley, South Carolina Department of Natural Resources, and I work with the Reef Fish Survey group.

DR. CAO: Jie Cao, faculty member at NC State University.

DR. CROSSON: Scott Crosson, and I'm an economist at NOAA's Southeast Fisheries Science Center.

MS. LANGE: Anne Lange, SSC, retired NOAA Fisheries.

DR. LANEY: Wilson Laney, also SSC, and also at NC State, in the Department of Applied Ecology, and retired from the U.S. Fish and Wildlife Service.

DR. LI: Yan Li, and I'm with the North Carolina Division of Marine Fisheries.

DR. SCHARF: Fred Scharf, and I'm a faculty member in Biology and Marine Biology at UNC Wilmington.

DR. SCHUELLER: Amy Schueller, and I'm an Assessment Scientist with NOAA Southeast Fisheries Science Center at the Beaufort Lab.

DR. SEDBERRY: George Sedberry, South Atlantic SSC.

DR. SERCHUK: Fred Serchuk, SSC, retired NOAA Fisheries.

DR. SWEENEY-TOOKES: I'm Jennifer Sweeney-Tookes, and I'm an Applied Anthropologist at Georgia Southern University.

DR. NESSLAGE: Fabulous. Thank you, SSC. Do we have Carolyn or any council members here today?

MS. MURPHEY: Hi. This is Trish Murphey from North Carolina.

DR. NESSLAGE: Hi, Trish. Thanks for joining us. All right. Judd, would you mind just introducing yourself really quickly, so that Kai, and anyone else that is new, can know your voice?

DR. CURTIS: Sure. Good morning. This is Judd Curtis, and I started with the South Atlantic Fishery Management Council in July of last year, as a Quantitative Fishery Biologist and as a liaison for the Scientific and Statistical Committee to the council, and so I got to meet a few of you at the AFS Southern Division meeting, but I'm looking forward to meeting the rest of you in April, which we'll hopefully have live in Charleston.

DR. NESSLAGE: Absolutely, and you probably know Kai from serving on the Gulf SSC, and isn't that right?

DR. CURTIS: I do know Kai, and so it's good to have you aboard, Kai.

DR. NESSLAGE: Great. All right. I think that's it for introductions, unless I'm forgetting someone, Judd.

DR. CURTIS: I don't think so.

DR. NESSLAGE: I don't think so either. All right. Then let's proceed with the agenda, and you should have found it in your briefing book. It's a short agenda, and there is nothing that I have to add, but, if anyone else has any suggestions or edits for the agenda for today, this would be the time to speak up. I am not seeing any hands raised, and so we'll consider the agenda approved.

DR. COLLIER: There is a hand raised, Judd, if you could unfreeze your screen and scroll up. Anne.

DR. NESSLAGE: My apologies, Anne. Go right ahead.

MS. LANGE: That's okay. Under Other Business, we had spoken, at the last meeting, of setting up a working group on the status of data-limited stocks ABC setting, and I'm wondering if that is going to happen or not, or if it should go into Other Business, maybe.

DR. NESSLAGE: Definitely, under Other Business, let's talk about that. Thank you. I am adding that to the Other Business section. Anything else? All right. Not seeing any hands raised, then we will consider the agenda approved. We also need to take a look at our October meeting minutes from 2021. Does anyone have any edits to the meeting minutes? See Attachment 1. No hands. All right. We will consider the minutes from our October meeting approved then.

The next item of business then is Public Comment. We typically take public comment at the beginning and end of the meeting, as well as after any presentations, and right after the SSC has had a chance to ask questions of our presenters, and so there will be time during the gag grouper -- In particular, the gag grouper agenda item, for comment, but, if there's any introductory or initial public comment, this will be the time to raise your hand, and just click on that little green turkey-looking button. Okay. No hands raised. Thank you.

Then we'll proceed with our main item of business for today, and that is Agenda Item 3, Gag Grouper Projections Review, and so I draw your attention to Attachments 3a and 3b, and those are the new gag projections presentation and report, which we'll receive the presentation from Erik Williams shortly, but, before we kick that off, I would like to take a minute to kind of review where we've been and where we're going today with this agenda item. Fred, do you have a question, before I launch into --

DR. SERCHUK: I know that you attend the council meetings, Chair, and I just wondered whether you could also inform us of how the discussion of our initial submission went that promulgated this request for an additional analysis. Thank you.

DR. NESSLAGE: Absolutely. That's coming right up, and, in fact, I am going to walk us through, briefly, our decision-making up to this point, and then I'm going to turn it over to Judd to summarize the council's discussion at the December meeting, and then we can revisit, if you have any additional questions at that time. Does that sound good?

DR. SERCHUK: It sounds fine to me, Chair. Thank you.

SEDAR 71: GAG GROUPER OPERATIONAL ASSESSMENT - REVIEW PROJECTIONS

DR. NESSLAGE: Fabulous. All right. Then, for everyone's -- Just to jog everyone's memory, we reviewed the gag assessment in May of last year, and, at that time, we applied our current ABC Control Rule to determine our P*. The assessment -- For Tier 1, we had no adjustment to the P*, given that MSY was estimated. When we got to Tier 2, the uncertainty tier, we gave it a 2.5 percent adjustment, given that environmental conditions were not explicitly included in the assessment model.

When we gave that to the stock status, we gave that a Tier 3, a 7.5 percent adjustment, which is automatic, given our current control rule and given the stock is overfished and overfishing is

occurring. When we got to the PSA tier, we gave that a four, a 10 percent adjustment, given the stock has low productivity, particularly in recent years, high vulnerability, and high susceptibility, based on our typical ratings that we evaluate the MRAG report and then provide our updated information and thoughts on the matter.

The total adjustments came to 0.2, which means then we subtract that from 50 percent, and we get a P* of -- Or 0.5, and we get a P* of 0.3, but, because the stock is overfished, we then use our P* to recommend a probability of rebuilding to the council, and so that means we subtract that P* of 30 percent from 100, and we get 70 percent, and so our recommended probability of rebuilding within the ten-year timeframe would be 70 percent, and that is what we recommended, but, at that time, we didn't have a complete set of -- We had asked for additional projections, based on a variety of recruitment scenarios.

I just want to remind everyone that, when we're in a rebuilding scenario, we are recommendations that only the council sets the probability of rebuilding, and so it's not like when normally we set an ABC and that is the max allowed.

Then we met again in October, and, at that time, the SSC recommended again that the probability of rebuilding be 70 percent, using the projections that incorporated recruitment estimates from the stock-recruitment curve. The reasoning was that -- Even though we talked a bit about recruitment uncertainty, the reasoning was that that additional 20 percent above the 50 percent minimum probability of rebuilding should account for any scientific uncertainty associated with the estimated recruitment that is being used in the rebuilding projections.

We noted a couple of areas of high scientific uncertainty. In particular, the stock-recruitment curve appears to overestimate recruitment at low stock sizes. Also, the stock size and recruitment, in the last ten years in particular, was very low, and there isn't really any, I guess, indication that there has been a recent recruitment pulse from any of the data sources, and then the retrospective analysis that was conducted for the assessment indicated that recruitment may be overestimated as well, and so, at our October meeting, we again reiterated that we recommend a probability of rebuilding of 70 percent, but cautioned that we might -- If the council selected 50 percent and went to the minimum, that we might recommend an additional scientific uncertainty be accounted for, if it was brought back to us.

At the December meeting, the council selected a probability of rebuilding, or at least was moving in that direction, and requested those new projections, to account for socioeconomic concerns, which is their purview, and so the SSC then -- Well, obviously, Beaufort has run those projections, and you can look at the report that's been provided, and Erik will walk us through those projections in a moment, but the SSC is now being asked, at this meeting, to basically describe the consequences to the stock of adopting either the probability of rebuilding of 60 or 70 percent within the rebuilding timeframe, given the uncertainties associated with the gag stock and the assessment.

I have a list that we can pull up, once we've heard the presentation of some of the quotes that we have already provided the council, but, if there's additional things that folks would like to add to list, or if we've changed our mind in any way, then we'll have that discussion after we've had the presentation and the Q&A with Erik, but I am going to stop talking for a second and turn it over to Judd, to see if he has anything he wants to add to better characterize the council's discussions from December.

DR. CURTIS: Thank you, Genny. Just a follow-up on some of the council deliberations from December, and they weren't in favor of the probability of rebuilding of 70 percent, and they felt that the 70 percent rebuilding plan projections were not satisfied by the necessary socioeconomic considerations for gag, and they wanted to adjust it further downwards. It was noted that there have been coastwide declines in the South Atlantic gag in all the fishery sectors along the coast, and this was observed by the council during their meetings and as well as the public, through public testimony and the scoping meetings.

There was some discussion of a potential phase-in approach to the probability of rebuilding, where they would start at 50 percent, to allow slightly more harvest, and then increase to a 70 percent, and this was discussed, but was questioned, as to whether it would be effective, or was even legally defensible. There was a general sentiment that it would be more beneficial to reduce the catch earlier, rather than later, so that the biomass could rebound more quickly and funnel that additional recruitment back into the stock.

The council requested that the SSC review a new projection at a probability of rebuilding of 60 percent. As Genny mentioned, it is within the purview of the council to choose the probability of rebuilding, and the SSC's task, in this case, is to assess and provide feedback to the council on the risk to the stock under these two different rebuilding schedules. That's a brief summary of what the council deliberations were in December, and, Genny, I will hand it back to you.

DR. NESSLAGE: Thank you very much, Judd. That was a great synopsis, or summary, of the discussions. I think, unless there is any burning questions that folks have, this would be a great time to turn it over to Erik, to give his presentation on the work that the Beaufort Lab has done to address the 60 percent rebuilding probability projections. Erik, are you with us?

DR. WILLIAMS: Yes, I am, if you can hear me.

DR. NESSLAGE: Yes. Thank you. Go right ahead.

DR. WILLIAMS: All right. I assume that Judd is going to run the show for me here. Thank you, everybody, and happy Friday, and welcome aboard, Kai. For those who don't know, I actually did my undergrad at the University of Florida, and so go Gators. I'm glad to see another gator on the SSC.

South Atlantic gag grouper, the projections here are from -- Kevin Craig did these, and I am just presenting them, and hopefully I have refreshed myself enough on all the details of this, so I can answer most of the questions, but, since this was short, and I was attending the SSC meeting anyway, I was going to give this presentation on behalf of Kevin Craig, but Kevin deserves the credit for running this.

Just a summary of the results from the assessment, and just a reminder, and Genny did a good job of going over sort of the history on this too, but gag grouper are overfished and overfishing, and so, therefore, they're in a rebuilding plan. Overfishing has been pretty bad since the 1980s. The prior assessment indicated the population was near the threshold in the early 2010s, but then we have seen really bad recruitment since starting around the 2010s.

Fishery-dependent and fishery-independent indices have shown a two to threefold decline in the last ten years, as a result of that, and, as I said, low estimated recruitment, and recent fishing mortality remains high, and is driven by the commercial and the recreational fleets, and the model was pretty robust, as assessment models go, and so we have a good degree of certainty with this one, at least in terms of stock status, probably.

The request that was given to us in December of last year was to provide a new projection, as Genny discussed, with a probability of rebuild at 60 percent instead of 70 percent, with the recruitment conditioned on the stock-recruit curve, which is the condition you guys chose for your recommendation last time, and for management to start in 2023. This report is providing that new projection, and we included with it, just to have a side-by-side comparison, the OFL projection under those same conditions, as well as the ABC with the probability of rebuilding at 70 percent, and so all three of those are in that report.

I won't go through the tables, and the tables are in the report, and I thought I would show just the graphical output here, and so this is the 60 percent probability rebuild, and you can see, from this figure, that, where the F falls for that, the F is below FMSY, and it requires a fairly decent drop in landings, as you can see in the bottom-right corner. Starting in 2023, landings are going to have to be reduced from a little over 500,000 to somewhere down around less than 200,000, and so it's a pretty steep drop.

You can also see, in the upper-right corner, the recruitment, and, basically, the forecast that we're indicating for those recruitment is that they will increase, and that is because we have conditioned them to follow the stock-recruit curve, and so, obviously, the accuracy of these forecasts is dependent largely on that future recruitment and whether it does increase or not.

Here is just for comparison, and this is the projection at FMSY, and you can see, from the top-left panel, that it doesn't rebuild, the blue line being the FMSY target from the base run, and the green-dashed line being from the median from the MCB process, and so, under FMSY, it does not rebuild in time.

Here is the one with a probability of rebuild at 70 percent, and you can see -- Basically, if you were to toggle between this one and the probability of rebuild at 60 percent, what you would see is just a little difference in the landings are lower that would be required to achieve 70 percent probability of rebuild, but the recruitment scenarios look about the same, or should be pretty much the same, and I think that's really all to mention here.

Like I said, the tables with the actual numbers are in the report, and I assume that everybody has looked at that, and I think that's my last slide, and so I will gladly take any questions at this point, and happy deliberating.

DR. NESSLAGE: Thank you, Erik. Are there questions for Erik? Please pass on our thanks to Kevin. Fred Serchuk, go right ahead.

DR. SERCHUK: I have a question, and I don't know whether Erik can answer it, but maybe somebody on the committee can. The comment was made that the stock has been overfished since the 1980s, which means, on face value, that we've had about forty years of overfishing going on in the stock, and that was -- Before 2010, we've actually had above-average recruitment, and is

there any reason why the stock has been in an overfishing condition for so long? I know, particularly when there's been a -- I presume there was a plan put in place in the 1980s to rectify the status of the stock, but I just would like some more background, if it's available. Thank you.

DR. NESSLAGE: I don't know off the top of my head. Is there someone -- Erik, would you like to respond?

DR. WILLIAMS: Sure, and so that statement is -- What happened is, if you look at the history, in particularly the SSB over MSST plot from the original assessment, it shows that it dipped below MSST in the mid-1980s, but then was slightly above it, and then slightly below it, and it didn't really get severely overfished until after 2010, and so it's kind of -- That statement is a little, perhaps, misleading, by saying it was overfished the whole time, and it became first overfished, it looks like, in the mid-1980s and then bopped back above the overfished condition for the 1990s and into the early 2000s, and has since dipped pretty far below it.

DR. SERCHUK: Thank you, Erik.

DR. NESSLAGE: Thank you. Wilson. Chip, sorry. Just one moment. Chip, is it to that point?

DR. COLLIER: It is, and, looking at the update in 2014, I think, the stock was -- It was above MSST in 2012, and so it wasn't in a rebuilding plan at that point, and I don't think overfishing was occurring, or it was occurring in that assessment, and it was addressed shortly there afterwards. The council had been given information that the stock was not overfished, and overfishing was not occurring, or had been rectified through some of the management actions that they had taken.

DR. NESSLAGE: Great. Thank you for that clarification. Wilson, go right ahead.

DR. LANEY: Thank you, Madam Chair. Just a question regarding whether we have any insight at all on the actual recruitment from any 2021 data, and I don't know whether any of the SEFIS data would have been processed yet or not, and maybe Erik knows the answer to that question, but whether we have any recent insight from either -- Well, let's see. I can't remember what the terminal year was, and was it 2019? So, if it was 2019, do we have any further indication, from 2020 or 2021, what recruitment is actually doing out there?

DR. NESSLAGE: Erik, go right ahead.

DR. WILLIAMS: I won't answer that too thoroughly, other than to note, and probably somebody from MARMAP can answer probably a little better, but, in 2020, we didn't really have a good sampling year. In fact, it pretty much was a non-sampling year, and so the only data we have is 2021. I have seen a preliminary analysis of that data, but I think it was too preliminary for me to sort of report what that says, unless somebody from MARMAP want to say something further on that.

DR. LANEY: Okay. Thanks, Erik.

DR. NESSLAGE: It looks like Wally might have something to say. Go ahead, Wally.

DR. BUBLEY: Not really, but basically echoing what Erik was saying, and I think everything is still kind of preliminary. We have the data in-hand, but we haven't really done a lot with it, to firmly say one way or another with anything.

DR. NESSLAGE: Understood. Thank you. Other questions for Erik? Jeff.

DR. BUCKEL: Thanks, Genny, and thanks, Erik, for the presentation. I was just looking at the table and noting that the discards -- The landings drop, and then the discards drop, maybe proportionately, I guess, and if you could just speak to how the discards were handled, and I guess the idea is there will be less targeting, and so there will be less discards, and is that the idea there, Erik?

DR. WILLIAMS: Yes, and, no, actually, it's not necessarily, and so, yes, that's an important thing to be aware of, is that we just -- The way we run these projections is a proportional drop that is necessary to achieve the rebuilding, and so we're assuming that whatever drop in landing is also going to be a concomitant drop in discards as well, and so, of course, as Jeff points out, the way you go about doing that could make a big difference, whether you actually are reducing discards, or even potentially increasing them, depending on the management action that is used to reduce, if they're just reducing landings, but, yes, how you go about reducing the effort matters. If absolutely needed, if it's a radical change in management, these projections might actually need to be rerun, to get a more exact number.

DR. BUCKEL: Thanks, Erik, and we had some discussion in October, and there's some language from the October report about that uncertainty there, and so thank you.

DR. NESSLAGE: Thanks. Other questions for Erik? All right. I am not seeing any, and let's take a moment to ask if there's any public comment in response to Erik's presentation, and this would be the time to comment on gag grouper. Chip.

DR. COLLIER: Just a plug for the online form, and I reviewed it this morning, and there are no comments for the SSC meeting, but just to remember that those comments are available, and you guys can review them at any time.

DR. NESSLAGE: Great. Thank you. Okay. So we're not seeing any hands, I assume.

DR. COLLIER: If you just give us one second, and Fred Serchuk is having some issues getting on, and he's bouncing between, but I just wanted to see if he had any additional questions.

DR. NESSLAGE: Absolutely. We'll give it a moment here.

DR. SERCHUK: Can you hear me now?

DR. NESSLAGE: Yes. Go right ahead, Fred.

DR. SERCHUK: I don't have any questions. My computer went down, and so I'm now on my cellphone, and I'm trying to reboot my computer to get back. Sorry about. These things happen to me, for some reason.

DR. NESSLAGE: Fate doesn't want you to join our call, evidently.

DR. SERCHUK: I am doing my best to get back on my computer. Thank you.

DR. NESSLAGE: Thank you. All right. Let's hear from the other Fred, Fred Scharf.

DR. SCHARF: I just had a question for Erik about the projections in the landings, and so, regardless, whether you're at 60 percent or 70 percent probability of rebuild, as you indicated, there's a big reduction in landings starting in the management year, in 2023, but then, in each case, the projected landings increase rapidly, basically just within a few years, back to sort of the most recent levels of landings, increasing from 175,000, or 200,000, pounds, back up to 500,000 by 2026 or so. Is it safe to say that the assumptions and the projected landings, given the fixed rate of fishing mortality, are dependent entirely on the stock performing based on the assumed stock-recruit relationship?

DR. WILLIAMS: Fred, I think that's a pretty safe statement. I mean, this is -- Recruitment is what's driving this whole thing, and so, if recruitment does not turn out to be what we're forecasting, then this is going to be off. I will say though that I think we've encompassed enough of the uncertainty, hopefully, and I think you can probably discern -- The figure that's on the screen right now, there is a strong correlation between the lower thin line, which is the lower bound in landings, versus -- Compared to the lower bound in recruitment, and so let's say recruitment were to stay low. I think you can see what the trajectory is going to look like on the low end, and so you can see that, even up in the spawning stock biomass plot too, if recruitment is below what we're expecting, there's a chance it won't even rebuild in time.

DR. SCHARF: Right. Thank you.

DR. NESSLAGE: Great. Are there other questions for Erik? All right. I am not seeing any hands at the moment, and so I think, at this point, we should transition to discussing our response to the council's questions, and perhaps we can start brainstorming some wording here and ideas for responding to the questions that have been asked under Action Item 3.5. Let's start with the first bullet, because what we decide will, of course, make decisions about the last two bullets kind of fall out.

Basically, we're being asked to, I guess, highlight, or describe, the potential consequences of adopting a P rebuild of 60 percent versus 70 percent, and I guess my first question to the group, to make the discussion flow more easily, is, is there any reason we would want to change our recommendation from 70 percent, because, if it's not still our recommendation, then that changes the discussion, but, if anyone has concerns about our current recommendation of P rebuild of 70 percent, if you wanted to deviate, for some reason, from the ABC Control Rule, this would be the time to bring it up. Fred Serchuk.

DR. SERCHUK: My concern is the same concern as I think Wilson was getting at. Irrespective of whatever, 70 percent or 60 percent, whatever we bless, it's clear that they are all contingent on getting improved recruitment from the stock-recruitment curve, and so I don't know whether this is the point to mention it, but I think that is -- To have some evidence, okay, under either scenario, whether the forecasted recruitment from the stock-recruitment curve is actually being realized, or has been realized, once we first get the 2021 data, I think is essential relative to whether either of

those scenarios are going to produce the projected results. If we could say that someplace in our comments, I think that would be very important. Thank you.

DR. NESSLAGE: Excellent point, and I think -- I don't know, Judd, if you would mind putting down basically both of the rebuilding scenarios will rely heavily on recruitment from the stock-recruitment curve either being accurate, and hopefully good, and that we'll want to get some evidence that forecasted recruitment is realized in the most recent data, to get a handle on whether that rebuilding, any of these rebuilding scenarios, are even reasonable, or to be expected to be in the right ballpark. While Judd is typing away, let's hear from Chris.

DR. DUMAS: Hi. Good morning, folks. Thinking about the socioeconomic differences between the 60 percent and the 70 percent rebuilding scenarios, comparing what's happening with landings across those two scenarios, going from 70 percent to 60 percent doesn't really seem to affect the mean trajectory of landings very much, and you're not getting very much, in terms of additional landings.

Going from 70 percent to 60 percent does push up the upper confidence bound on landings, and so you're getting a possibility of greater landings, but the mean projection is staying about the same, and it looks like the lower confidence limit is staying about the same, and so what you're getting is a little bump-up in the upper confidence limit on landings later in the rebuilding period, but we're not getting much change in mean landings, not a lot, it seems to me, and the cost of doing that is that your rebuild -- It looks like the mean trajectory rebuild is going about six months to a year later, and so you will be rebuilding mean projections six months to a year later, but the lower confidence limit on when that rebuild is going to occur shifts down a bit, and so you've got a little bit more risk in how long it's going to take that rebuild to occur.

It doesn't seem to be much gain, socioeconomically, going from the 70 percent to the 60 percent, and you're accepting a little bit more risk. You're rebuilding a little bit later, and six months to a year later is the mean projection, and you've got a little bit more risk in when that rebuild is going to happen, because that lower confidence limit seems to be shifting down a little bit. I don't see that there is much overall net benefit of going from the 70 to the 60, and that's the way I see things at this point. Thanks.

DR. NESSLAGE: Thanks, Chris, and so I think Judd actually has run the numbers on this. Judd, do you want to a moment to comment on that, because the council asked about this.

DR. CURTIS: Sure. This was a question that kind of came up during our Executive Committee meeting, and something the council has been curious about, and the question is what is the amount gained in harvest, in pounds, over the ten-year rebuilding timeline between the 60 percent and 70 percent rebuilding scenarios, and so I ran the numbers, and, for the years of the rebuilding schedule, 2023 to 2032, the P rebuild of 60 percent gives you 6.6 million pounds gutted weight. A rebuild of 70 percent gives you 5.7 million pounds gutted weight, and so it comes to a difference of 902,000 pounds gutted weight over the ten years, and so about a 90,000-pound-per-year average.

DR. NESSLAGE: So not insubstantial, right. I would guess that's a subjective determination though, of course, and so, Chris, does that help?

DR. DUMAS: Yes, it does. Looking at the two graphs, comparing the graph of the 60 percent projection and the graph of the 70 percent projection, there is not much -- I mean, you know, there's not a huge amount of difference, and so what Judd just said with the difference in the landings between the two projections, but then, if you compare that to the base level of landings of 500,000, and so you're talking about a difference between the two rebuilding scenarios of 90,000 out of 500,000, and that's per year, and so it's 500,000 per year, and so 500,000 times, right, times ten is the base, and so you're talking about a difference of what -- Anyway, it just doesn't seem to be a huge amount of gain in landings in going from the 70 percent to the 60 percent, and so I just don't know if it's worth the additional risk in the rebuilding time for that relatively small amount of gain in landings.

DR. NESSLAGE: Great. Thanks. Let's go to Wilson.

DR. LANEY: Thank you, Madam Chair. To answer your question, I would not be in favor of switching to 60 percent, for the reasons that were articulated by Dr. Serchuk and Dr. Dumas. There isn't that much gain, economically, and there is still a good bit of uncertainty with regard to whether or not recruitment will be sufficient to provide rebuilding at the projected rate, and so I am in favor of sticking with our initial recommendation of 70 percent probability.

DR. NESSLAGE: Thank you, Wilson. Again, I will ask one last time, and is there anyone who disagrees -- I guess who does not -- I guess is there anyone who feels that we need to change our recommendation? I am not trying to, believe me, but I just want to make sure we're all on the same page before we launch into the final discussion of our reasonings here.

I am not seeing any hands, and so I am going to take silence, and Wilson's great description of there being no reason to change our recommendation, as consensus that we're sticking with our recommendation of a P rebuild of 70 percent, which brings us to then let's continue our discussion and try to elucidate some of our reasoning, as well as our concerns about why we feel that the 70 percent, versus a lower percent rebuild, is appropriate, and I see some hands raised. Let's go to Alexei.

DR. SHAROV: Thank you, Genny. My comment is related to the discussion that you just closed out, and so I don't know if you want to hear anymore, but, generally, the predictions are primarily based on our assumption about the stock reproduction following the stock-recruitment relationship, which is obviously quite uncertain. Each year's recruitment resets sort of the probability for the following year, and so the next year's probability is conditional on the previous year's achieved level of biomass, as the result of the incoming year classes and the level of it.

Honestly, as everybody said, the difference in the landings projected are insignificant, as well as the differences in probability of rebuilding are insignificant, and the difference of 10 percent can only be achieved if were to repeat this event say 10,000 times, but the reality is that we have only one -- In my mind, the results are pretty much -- Therefore, I don't oppose sticking with the 70 percent. The 60 percent, in my mind, in terms of the prediction, would have ended up with pretty much the same result, and that was -- Thanks.

DR. NESSLAGE: Someone needs -- Everyone check to make sure you're muted, and there was a lot of noise in the background there, and so I think I caught what you were saying, Alexei, and you're saying there's not a lot -- There's not as much difference between -- There's not a

significant, and "significant" is a loaded term, but there's not a lot of difference between 60 and 70, and is that essentially the gist of what you're saying? It was hard to hear.

DR. SHAROV: Yes, and that didn't come from me, and it's from somebody else.

DR. NESSLAGE: Gotcha, and it sounds like folks have muted, and so that's good. Kind of Chris was saying something similar, but from a different angle of there's not a lot of difference, and so the socioeconomic pro is that you would get more landings, of course, which is the council's concern and purview, but then we're saying there is -- But you might -- With that additional 70 percent, you gain some additional buffer for uncertainty in what the expected recruitment is going to be, and hopefully I am summarizing that well.

DR. SHAROV: If I could respond to that. Yes, but, theoretically, like in our digital exercise, yes, but, in practical terms, the differences between the level of fishing mortality that we would have to maintain for 60 percent or 70 percent -- We don't have a dial where we set the F and it will stay exactly at this level, and there is a huge inconsistency, or uncertainty, in the ability to precisely adjust fishing effort to reach a desired level of F rebuild. Therefore, it's -- In practical terms, we are not able to have the system set up for achieving either 60 percent or 70 percent rebuild, but, theoretically, and that's what we do, we are trying to sort of come up with the best theoretical recommendation, and so 70 percent stays in there as the best theoretical recommendation.

DR. NESSLAGE: Right, and so maybe we could summarize, in another bullet, right under the "gain in" one there, that I think -- Alexei, if I'm characterizing what you're saying here, it's that there is also additional uncertainty in basically being able to achieve these Fs, where it's uncertain how discards, and we talked about this at our last meeting, is it's uncertain how discarding and discard mortality will impact these projections, and so our ability to achieve these Fs, as well as the recruitment levels in these projections, is highly uncertain, and does that summarize it, Alexei?

DR. SHAROV: Yes. Thank you.

DR. NESSLAGE: Great point. All right. Let's go to Jeff.

DR. BUCKEL: That was -- I wanted to have a bullet about discard mortality, that both rebuilding projections are reliant upon the dead discards dropping in proportion to landings, and so it's similar language to the first bullet, right, and it's -- We've got the rebuilding projections relying on the stock recruitment, but they're also reliant on the assumption that the dead discards is going to drop, and, given that it's a multispecies fishery, and there's going to be hooks in the water, that may stay -- It may not drop, or maybe, because of the regulations, maybe there will be an increase, and so we don't know. If that could be captured somewhere, as its own --

Then the other comment, and this is maybe a question for if there's a council member that is familiar with the fishery, and so I get the point that's been -- When you look at the harvest, in terms of landings, that there's not this large gain, but it's, I think, from the economic side of things, the other thing to look at is the price per pound, and I think these are pretty high-dollar -- This is a pretty high-dollar commodity, and so someone may want to comment and provide that information to the SSC, and so there may not be this large gain in the poundage, but it's, I think, a larger gain in dollars. Thanks.

DR. NESSLAGE: Great. Thanks, and I just want to caution folks that we'll want to wordsmith the second bullet there, because it's really not our purview to judge the socioeconomic benefits, but, if the SEP folks can help us massage that wording a bit, think about that for a moment, to put it more of a scientific perspective of a recommendation to the council, that they may want to consider the tradeoffs between blah, blah, blah, blah, if you get what I'm saying, and we're not -- At least my understanding is we're not supposed to make a judgment on this but to provide the council with our opinion on the socioeconomic pros and cons, but I could be wrong there, and I will look to our SEP folks to comment on that in a moment, but let's hear from Anne first.

MS. LANGE: I raised my hand relative to what Alexei had said, and, the way he had worded it, it sounded more like that would be a management issue, but the way that it's worded in the third bullet is appropriate, and so I guess I'm dropping my concern.

DR. NESSLAGE: Great. Thanks.

MS. LANGE: Alexei was talking about whether or not we could achieve the F level, based on whatever management measures go into effect, and I just want to make sure that it was clear that we weren't providing management or making a decision based on management's ability to monitor or achieve the level we recommend. Anyway, the third bullet addresses my concern.

DR. NESSLAGE: Great. Thank you. Let's go to Fred Scharf then.

DR. SCHARF: Genny, I had -- I just had sort of a high-level question for you, or for council staff, and maybe it's just me, but I am still a little bit fuzzy on exactly how this process works, in terms of the latitude, or constraints, that the council has in setting the probability of rebuild schedule, and so, in other words, is it -- If it's their purview to choose a rebuilding probability, and, you know, we recommended 70 percent, and they may choose 60 percent, and what are the constraints, in terms of that selection? I just was curious, and I am just not very clear on exactly that process, if there's somebody maybe from the council staff that could comment on that, and I just want to make sure I'm thinking about things the same way.

DR. NESSLAGE: Sure. I don't know if Chip or John -- I know we've talked about this, and maybe you guys want to address -- John, go right ahead.

MR. CARMICHAEL: Thank you, Genny, and, Fred, that's a good question, and so the council does set the rebuilding probability for stocks that are under rebuilding plans, in this case, and so it is up to the council to set that. They look to you for recommendations on what are the risks and consequences of the different probability choices they have, and so, in this, really what the council has done is looked at 70 percent, looked at the cost to the fishery, the social and economic impacts of that, and they came up with the question of whether a lower probability of success could potentially offset some of those benefits, which it could with higher yield, but what's the risks of doing that, and so what's the risks to the stock from doing that?

That's really what they're asking here from you, so that they can really judge the 70 percent versus the 60 percent and have your opinions on what the consequences are, and then they will decide which one they think is appropriate, and Genny mentioned the risk, and that's an important thing, and it is their purview to make the risk call, and so they want to know is the risk of going from 70 percent to 60 percent worth the benefits of another million pounds of harvest over ten years, and

that's really what they are, and there are social and economic benefits to the fishery from the higher harvest level, and there's also the impact of that on the regulations, and we know how the regulations tend to impact discards, and so there's also some way to consider that in there, perhaps, but, yes, there's a lot of things that could be considered there, but, ultimately, it's going to be up to the council to decide 70 percent or 60 percent or, really, anything greater than 50 percent is their purview under Magnuson.

DR. SCHARF: Just to clarify, 50 percent is sort of the -- They can't go below 50?

MR. CARMICHAEL: Right. Rebuilding plan, by law, settled in court, have to have at least a 50 percent chance of rebuilding.

DR. SCHARF: Super. Thank you.

DR. NESSLAGE: Great, and so I wonder if, Judd, we want to just say upfront, at the top, that -- I think what folks are saying is that the risk, the primary risk, is that the stock may not rebuild in ten years, and/or may continue to decline, if -- Then we can say these uncertainties, the following uncertainties, or the following concerns, actually pan out, basically. Thanks. We can work on wording, but let's hear from -- John, do you have more?

MR. CARMICHAEL: Yes, and just, to that point, and I think it's important here that you've talked about risk of rebuilding and everything when we first made, when you first made, the recommendations for 70 percent and reviewed the assessment and discussed recruitment and all of those things, and so we all know that there's a risk that, if the stock won't rebuild at 70 percent, there's a risk that the stock won't rebuild at 60 percent, and there's a risk that the stock won't rebuild if we set it at 100 percent, based on our projections, because none of us know what recruitment is going to do over the ten years of this rebuilding plan.

I think it's important, in this meeting, to focus on the difference in the risk between 60 percent and 70 percent. If you just say there's a chance, there's a risk, that it won't rebuild at 60, I think the council can say, well, there's a risk that it won't rebuild at 70, but the important thing here is what's the difference in that risk, and anything you can say that helps define the difference in that risk is something the council can weigh against the potential social and economic benefits of a higher harvest allowed with 60 percent, and that's really the gist of this meeting.

DR. NESSLAGE: All right. Thank you, John. Let's go to Wilson.

DR. LANEY: Thank you, Madam Chair. The older members on the SSC will recall that old saying, which is pay me now or pay me later, and I wonder if that comes into play here. While looking at it on paper, looking at the projections, the fishers would get to harvest additional landings under the 60 percent probability rebuild, versus the 70 percent probability rebuild, and I harken back to our discussions last year about the importance of trying to broaden the age structure and get older and more robust and more fecund females into the stock.

I acknowledge what John says, and there's the risk associated with either 60 percent or 70 percent, and, per Chris, the socioeconomics just don't seem to be all that much different, although the landings, theoretically, will increase if things go as projected, but I wonder if we could say -- Can

we say that, with a 70 percent probability, that there is any likelihood of rebuilding the SSB any faster?

I mean, I looked at the graphs again, to get insight into answering that question, and I am just trying to look at it from the perspective of whether or not the economic gain at 60 percent creates any issues with rebuilding the stock a little faster, and I think we already discussed that, and so I don't know whether we want to capture that in a bullet or not, but that's basically my rambling question there.

DR. NESSLAGE: So you're asking would it rebuild faster, and, the way the projections are done, and I don't know if others have insight on how to interpret these, but I always look at where any given graph would be at 50 percent versus 60 or 70 percent, and we basically gain a year, in the sense that you would rebuild -- Am I reading that correctly? I will look to Erik, perhaps, and 50 percent looks like -- If you go with a probability of rebuilding of 60 percent, you would rebuild to -- You would be at 50 percent in 2031, versus, if you're at 70 percent, it would be in about 2030, maybe less.

DR. LANEY: Yes, and a follow-up, Madam Chair. Given that, we gain a year, I will look to those like Wally, who understand the biology of this species a lot better than me, as to whether or not gaining a year would equate to more larger robust females in the population that were sufficiently more numerous to make much of a difference, in terms of trying to rebuild the recruitment capacity of the stock, and that's what I am trying to ask, I think, and I don't know the answer, and it's an honest question.

DR. NESSLAGE: I don't know that anyone has the answer, and I think that is the question, isn't it, but folks can comment on that. Let's go down the list here. Scott, go right ahead.

DR. CROSSON: Well, I am just going to say that I can't answer the biological questions, but, from an economic perspective, and I think this was where Dr. Dumas was heading, you can do a benefit-cost analysis comparing these two options. If you move it to 70 percent, and it's going to cost you some landings on the upcoming years, but you're going to gain something on the following years, and you're also going to increase the probability that the rebuilding is going to work overall, it's not a terribly complex benefit-cost analysis to do.

I would recommend that that be done before the council gets to its March meeting, when it's weighing the different options, and it's not going to tell you everything, and it's not going to tell you about what Wilson's point is about the different age structure and the females in the population and what that does, but it will tell you something about the benefits, because you can discount the different gears appropriately, and you can weigh the changes in landings, and you can put all that information into a benefit-cost analysis, and at least that would give the council some idea, from the economic side.

DR. NESSLAGE: Great. Thanks, Scott. Fred Serchuk.

DR. SERCHUK: Thank you, Chair. Let me preface my comments by saying that this stock is overfished and overfishing is going on, but, more than that, the document that we prepared, that the Center has prepared, talks about that current catch is more than twice the FMSY value, and it's not 10 percent above, or 30 percent, and it's double that, and the stock itself is 15 percent of its

SSB level, when the assessment was done. It's not 50 percent, and it's not 70 percent, being just slightly overfished, but it's grossly overfished, and, for me, that suggests that stock recovery is really critically important.

I don't really see any difference between the 70 percent and 60 percent projections that are meaningful, and so one might argue, well, okay, then it doesn't make any difference. Would it be possible, in the rebuilding plan, to say, look, we'll start off with 70 percent, and we'll see how that's going? If things are going in the right direction, we might go down to a 60 percent level later on, but my feeling is that this is a grossly overfished stock, which is experiencing gross overfishing, and that simply means, to me, that, when that happens, I would suggest that it requires some significant action, and, given the uncertainties in recruitment, projected recruitment, I would even be concerned that neither of those scenarios are likely to occur, because we don't really have a handle on whether the projections from the stock-recruitment curve are coming to pass.

We had a much more pessimistic discussion, of course, when we were looking at the ten-year average recruitment and getting back, but that may be the reality, and that's why -- One, maybe the council has more flexibility if they start off with 70 percent and see where that went, and, if that wasn't enough, perhaps they could change it later on in their ten-year rebuilding plan, and I don't know what the law allows, but certainly they would both be above the 50 percent probability that's required by law. Thank you.

DR. NESSLAGE: Thank you, Fred. Alexei.

DR. SHAROV: Thank you, Genny. I think the answer to John's question is as simple as that -- With the F corresponding to the 60 percent probability of recovery, we have a 60 percent chance of the stock to rebuild by the target year, conditional that all the assumptions that we're making in this projection actually are correct and the stock will follow as the assumptions direct.

Similarly, the 70 percent probability would also -- The 70 percent chance of rebuilding by the target year if the assumptions are correct, and so the difference is as simple as that slightly higher probability, and it's only probability, by 10 percent higher, that you may achieve rebuilding by the target year. I mean, it's the way we calculate it and the way that we originally set the target for the calculations.

The principal problem is that we will not be able to verify whether this worked or not, because, as I said, we have only one practical realization per year, and we cannot replay it a thousand times, and, therefore, nothing can be said beyond that, that you have a slightly higher, 10 percent higher, probability of achieving it, and, to Wilson's question about the probability of increasing the abundance of large, fecund females, these projections will not be able to answer that question. They assume a certain level of recruitment, and the only thing that changes is the level of the target mortality, while selectivities remain the same, and so, in order to achieve that goal, specific goal, a different set of regulations needs to be considered to specifically protect larger females, but it would be a totally different issue to discuss and model.

DR. NESSLAGE: To your last point there, Alexei, both you and Wilson have mentioned that, but is that something though that we would like to add as a bullet, that clearly there needs to be more protection for older fecund females, or older fecund spawning stock in general?

DR. SHAROV: If that is the consensus of the committee.

DR. NESSLAGE: Does anyone -- Think about whether you disagree with that, and speak up, and we'll put some placeholder wording in, and we can revise, or remove, as people comment. We'll go to Chris, and then we'll take comments from Andy.

DR. DUMAS: Thank you. I would just like to say that, on the potential negative side of going from the 70 percent to the 60 percent, look at the lower confidence interval on the spawning stock in the terminal year, in 2032, and so that lower confidence interval on the spawning stock may be pretty substantially lower, and so that would be an additional risk, a downside risk, on your spawning stock, in the later years.

It would be larger for that 60 percent scenario, and so you've got larger downside risk on your spawning stock level out in the later years if you go down to 60 percent, and it's a relatively large difference in the level of your spawning stock at that lower confidence -- I am trying to look at the differences between the 70 percent projections and the 60 percent projections, and a lot of the things are similar, but that's something that appears to be different. That lower confidence interval and spawning stock is lower with the 60 percent projection, and so you've got a higher risk, or more downside, on your spawning stock with that 60 percent projection. Thanks.

DR. NESSLAGE: That's a good point, and maybe we can add that to the bullet. The difference looks like the -- In 2032 for 60 percent, off of Erik's tables, and it looks like it's 1,867 at 60 percent and 2,101, essentially, from 70 percent. Maybe that's something we can add to that discussion there, and is that what you're arguing?

DR. DUMAS: Yes, and it's not necessarily a huge difference, but it's one of the larger differences between the 70 percent projection and the 60 percent projection, if you're looking for the differences.

DR. NESSLAGE: Right, and, depending on the age structure, if you actually calculated the fecundity off of that, that might be an even bigger difference, right?

DR. DUMAS: Yes.

DR. NESSLAGE: Gotcha. Thank you, Chris. Let's go to Andy.

MR. STRELCHECK: Thank you, Madam Chair, for the opportunity to speak. For those that might not know me, I am the Regional Administrator for NOAA Fisheries Southeast Regional Office, and I also represent the agency on the South Atlantic Fishery Management Council. I wanted to go back to comments earlier, and John did a good job of kind of explaining the council's authority with regard to setting risk, and maybe shed a little bit more light on that, and so, as you know, the council has established an ABC Control Rule, which then the SSC implements, in terms of calculating risk.

Based on the National Standard Guidelines, it kind of lays out clearly, in terms of the process for setting the ABC based on the ABC Control Rule, but it also provides for an opportunity for the SSC to recommend an ABC that differs from that ABC Control Rule based on a variety of factors, but, in doing so, it must provide an explanation for that deviation, and so, in this instance, the

council, at their last meeting, talked a lot about trying to lessen the socioeconomic impacts associated with such a steep reduction in harvest, and we talked about everything from a phased-in ABC Control Rule to just setting a lower probability for rebuilding, and that's why this essentially came back to you for consideration, but the council, obviously, cannot set a catch limit above the ABC Control Rule that you recommend, and so that's why we wanted discussion by the SSC with regard to whether or not you would consider deviating from the 70 percent risk probability for rebuilding.

Fred Serchuk, earlier, mentioned phasing-down from 70 to 60 percent over time, and I guess I would add that, with any rebuilding plan -- Right now, we're looking at ten years for gag grouper, and we'll revisit that rebuilding plan at the next assessment, and, if we're not making adequate progress, we'll have to make changes, and, if we're making better than expected progress, then, obviously, we'll make changes as well, to, obviously, modify the rebuilding plan.

Then the last comment is just to note that certainly I appreciate the comments surrounding the socioeconomic effects, and I've heard a lot of kind of statements, and apologies if I mischaracterize, but that these are kind of small relative economic changes, or gains, and, although that is true, in light of kind of the size of this fishery, I would argue that the increases are pretty substantial when you look at it in a relative sense, compared to what the ACL is going to be set at, and so I think that's an important point, and I certainly also understand that you're balancing that against the risk of potentially not rebuilding the stock. Thanks for the opportunity to speak.

DR. NESSLAGE: Thank you for that, Andy. I just wanted to clarify though one thing you said. My understanding is that we do not provide an ABC like we normally do when we're in a rebuilding plan, such that the council can still decide on a probability of rebuilding at 60 percent, and then that F level will set the ABC and not -- Regardless of what we recommend, and I am going to look to John, or someone else, to clarify this, and I just want to make sure we're all on the same page, so that folks don't get the wrong idea of what we're doing here.

MR. CARMICHAEL: Genny, that is the case, and it's a little bit different in rebuilding, because the ABC comes out of the rebuilding schedule, and then the rebuilding schedule is based on the approach the council chooses in the rebuilding probability, and so it does make the ABC a little bit different in a rebuilding scenario.

DR. NESSLAGE: Great. Thanks. Are there other comments from SSC members? Fred Scharf, go right ahead.

DR. SCHARF: I was just trying to sort of think -- Like kind of summarize a little bit of where we're at. I think some folks have brought up maybe that the benefits, socioeconomically, may not be that great, but I think -- I certainly think it could be, right, and, again, it may not be our purview to comment on that directly, and the council knows what it is, right, and, I mean, there's a difference in -- The difference in landings in the initial year, 2023, is about 50,000 pounds, which, when you've taken a fishery from 500,000 pounds of landings down to 200,000, that 50,000 pounds can make a big difference financially, and it grows much faster, in terms of the higher allowed landings under the 60 percent rebuild, to where, at five years in, you're almost 100,000 pounds more in landings, and so it's -- As Jeff indicated, if the catch is much lower, the allowable catch is much lower, it's likely to drive a price increase, and so there is certainly probably some very real financial benefit to doing this.

I wanted to follow-up on what Chris was saying. If we want to quantify some of the differences, I was looking at the spawning stock biomass, just as he was talking about it, in terms of, one, the uncertainty in the lower bounds, but, as you mentioned, in the table, just the median estimates, and, if you look at the 60 percent, relative to the 70 percent, in terms of the projections, at five years, it's a hundred metric tons lower, in terms of projected median spawning biomass, if we use the 60 percent rebuild, and, by the time you get to 2032, ten years into the rebuild, you're almost 300,000 metric tons lower, in terms of median estimates of spawning biomass.

If that translates into a reduced probability of expanding the age structure and having more older fish that could increase reproductive potential, then that's a way that we can try to characterize that risk for the council, so they can understand that, while there is likely some real financial benefit to the difference in the rebuilding schedules, the risk is there, in terms of the probability of rebuilding the spawning biomass, and, as Fred had already mentioned, we're in a place where the stock is -- You know, it's 20 percent of where it's supposed to be, and the level of overfishing is twice what it should be, and so we're not a borderline with this stock, and we're in a pretty rough position, and so just maybe some ways that we could quantify some of the differences in that schedule, and I like Chris's idea of looking at the stock biomass projections.

DR. NESSLAGE: Great. Thank you, Fred. What I would like to do is we'll take one comment from Fred Serchuk in a moment, and then I would like to take a biological break, a short one, and come back and put some -- Flesh out that discussion of the SSB and any other wording changes that we want to have to our comments so far, but let's hear from Fred before we break.

DR. SERCHUK: Thank you, Chair. I want to follow-up with a comment that Andy mentioned about the rebuilding schedule may be changed, to the extent that the next assessment shows something different or shows -- Than we projected in our recruitment estimates. Clearly, the recruitment estimates are driving everything here, and, whether you're at 60 percent or 70 percent, the huge uncertainty in recruitment affects both of them, and so, in that sense, we should be equally -- Everyone should be equally cautious about interpreting any of the results.

We have no real sampling in 2020, from what I heard from the Center, and we have preliminary data from 2021, but we haven't analyzed it yet, and the initial years of the projections are based on assumed catches and so on and so forth, and my feeling would be that the 70 percent should be at least adhered to until the next assessment, until we have a better handle on what recruitment actually is relative to what we've assumed.

At that point, one might want to change the course, with respect to the council's assumption of what the risk level should be, in terms of rebuilding, the 70 percent or 60 percent, but we can talk until the we're blue in the face, but the real question that I have is recruitment is very uncertain relative to what's been estimated from the stock-recruitment curve, and that affects everything. I think that was one of the reasons we went to 70 percent.

My feeling would be that that overwhelms everything, and we really don't know what recruitment is, and we've put in recruitment that's higher than we've seen in the past ten years coming into the fishery, and, until we see something like that, the difference between any of these levels of risk, 60 or 70 percent, are meaningless, in my mind. Thank you.

DR. NESSLAGE: Thank you, Fred. Okay. I would like to take a very short biological break. Let's meet back at 10:00, if we could, and we will -- It sounds like we're circling around some good recommendations here, and let's flesh them out a bit more and then see where we stand at the end of that discussion, and so see you back at 10:00, please.

(Whereupon, a recess was taken.)

DR. NESSLAGE: All right. If we could pull up the wording so far, and I feel like we're circling around some consensus statements here, and we just might need to flesh out some of the details. All right. I feel like we might want to reorder these, if we could put the recommendation remains at P rebuild 70 percent above, to the top, to kind of make this a logical argument order here for us.

Then I think our point is, as John indicated, we need to elucidate why there's a greater risk to not rebuilding at 60 versus 70, and some of the concerns that have been raised are that we're relying on the stock-recruitment relationship, which is already, we believe, overestimating recruitment, and that's the third bullet.

I feel like the comment about recruitment and checking on empirical recruitment is something that I think Fred Serchuk was trying to flesh out a little bit more, and maybe that's a point that we want to make at the bottom, and see what you guys think of this, that we might want to make a recommendation that the council maintain a rebuilding plan at 70, or 60, if that's where they decide, until the next stock assessment, when we have updated recruitment information and we can see what the impact is on the stock. Then we'll know how accurate our forecasts were from this assessment, or at least we'll have a better idea of whether we really are overestimating recruitment and whether recruitment has taken a turn for the better or worse.

At least that's what I heard folks saying. Obviously, if this is not consensus, speak up, and then the fourth bullet, gain in harvest, and so this is one that I'm still a little shaky on, and I'm looking to my SEP folks here to help me with that one, us with that one I should say. I think the fifth bullet has to do with uncertainty in discard mortality and can be combined -- I thought we had something about -- Basically, this was the concern about whether we can achieve these Fs. There is uncertainty in whether or not we can achieve these Fs as well.

Not just projecting F, but whether these Fs are achievable I think is what we're getting at there, and we can wordsmith in the report, and perhaps we can combine the cost-benefit bullet with the gain in harvest bullet, because they kind of go together, I believe, but someone correct me if I'm wrong. Then I think the stock is grossly overfished and overfishing should go right up at the very top, with the recommendation to stay at 70 percent. These are my recommendations, and I see hands being raised, and so you can chip away at this. Let's start with Wilson.

DR. LANEY: Thank you, Madam Chair. I support your rearrangement of the bullets, and I think it's good and appropriate. I don't see, unless I am just not reading it closely enough, that we captured Chris's comment about a real difference between the two scenarios being that lower bound, and so I think we ought to stick that one in there somewhere as well, and I think Fred Scharf addressed that also, noting the change in the metric tonnage that would be reduced, or increased, in terms of that lower bound shift from the 60 percent to the 70 percent, and so I will look to them to say how that should be captured, but that is a real difference between the two, which the council is looking for, I think.

Then, with respect to the third bullet now from the bottom, changes in regulations to protect larger, fecund females is critical to increase recruitment and rebuild the stock, I would say that is certainly a true statement. Based on everything I have read recently, there has been -- There have been a number of papers that say, hey, if you want to really manage your fisheries for sustainability, you need to protect those larger females.

My question here though is whether or not, given the nature of this fishery, and given barotrauma, even with the council's requirement for descender devices now, whether or not we could even come up with a change in regulation that we thought would be effective in protecting larger females. I mean, conceptually, I like it, but is it really practical and something we could do? I guess we would have to consider something like a slot limit, and put the larger females above the upper bound of that limit, but, again, because of the barotrauma issues in this fishery, I am not sure we could come up with something that would be practical and would be effective, in actuality, and so those are my comments, Madam Chair. Thank you.

DR. NESSLAGE: Great. I hear you. Judd, could we add, to that one you have highlighted there, something about discard mortality may make this difficult to achieve, something as a placeholder for that discussion, which we can flesh out in the report, and I feel like the second-to-last bullet needs to be, or maybe even higher, needs to be this discussion of the spawning stock biomass, and so do you mind moving that last one up, and let's add to that, and I am trying to capture everybody's -- Move that way up high. Thank you.

Lower bound in the SSB projections indicates there would be significant benefits to P rebuild of 70 percent, with regard to rebuilding the spawning stock, and then we can flesh out that with the actual numbers from the table later, and so if you don't mind putting some note in there that we'll enter the table numbers and the probabilities, and we can add that later, during the report writing process, just so we don't forget. Thank you. Then, if you don't mind pulling up the cost-benefit one and sticking it with the current Bullet 4, and I think that was the last -- I feel like those go together, unless people disagree. We'll give poor Judd a moment, while we -- If we were all sitting here, we would be staring at you, if we were at the table, which would be even worse.

DR. CURTIS: I can't wait for that in April. It's going to be a blast.

DR. NESSLAGE: Yes.

DR. CURTIS: Okay. Does that capture what you just discussed with regard to that bullet point, Genny?

DR. NESSLAGE: Yes, and that will remind me to put those numbers in there, and if you could grab the cost-benefit and throw it up under the gain in harvest one, and, while you're doing that, let's hear from Alexei.

DR. SHAROV: Thank you, Genny. I like the idea of looking at the lower bound in SSB projections. That's what I was considering bringing your attention to as well, and that is, generally, we're talking about the probabilities of achieving this stock rebuilding, and it's highly uncertain, as Fred spoke about just minutes ago, and I totally agree with him. Probabilistically, yes, there is a difference. Realistically, and I repeated that several times, that we will not be able to evaluate

whether the choice we made will actually increase or decrease that probability, but the lower bound is the area where we are at least somewhat certain about, and that is considering that the recruitment variability drives mostly these projections.

The lower bound for either SSB or recruitment is essentially -- That is what we expect, that recruitment will consistently be low, and that is the recruitment will be the lower bound of the envelope that we use to predict future recruitment, and so, if it's as low as that, consistently, given the level of fishing mortality that we choose, that's where we're going to be, but, obviously, for the F for the 70 percent chance of rebuilding is slightly lower, and the F for 60 percent is slightly higher, which results in the differences of the lower bound for the SSB projection.

If we really wanted to be certain, that's probably what we would have used, but this would be, of course, risk-averse, but quite a restrictive option, and so, all considerations of probabilities aside, it's clear that what we do know is that, the lower the F we will target, or set as the rebuilding target, the higher is the chance for the stock to rebound, and so, given this, it is reasonable to recommend that we stay with the recommendation of the 70 percent chance of rebuilding, because that equates to a lower F, given all other equal.

Of course, the rebuilding recruitment deviation -- One deviation from the stock-recruitment curve that we use in projections may either increase that chance of recovery or decrease it, and that is what we will not be able to predict.

Lastly, what I wanted to mention is that we talked about the uncertainty in fishing mortality, and I thought maybe that's not a bad idea, of actually introducing some variability in fishing mortality targets, when we do projections, because it's obviously too strict of an assumption that fishing mortality will be constant and equal exactly to the F target that we put in there. I think it is limiting us in evaluating the probability of the SSB variability, the projected SSB variability. I think that's it. Thank you.

DR. NESSLAGE: Great. Thanks, Alexei. If you have any suggestions for adding or subtracting from the wording, that would be helpful. The only thing you said that we don't say straight up is in the first bullet, and I heard you say that we say there -- Let's see. Concern that neither scenario result in stock rebuild, and I think, after that, we could say exactly what you said, which is, the lower the F target, the greater the chance of rebuilding. Everyone knows that, but I think we need to say it again, and I think that's what you're suggesting, perhaps.

DR. SHAROV: Thank you, and it's obvious, but, nonetheless, it's important sometimes to state the obvious.

DR. NESSLAGE: Right. I think your second set of comments was captured, at least in general, under the additional uncertainty and whether the F projections are attainable, given the -- I think it's not uncertainty in projecting F, but I think it's uncertainty in achieving projected Fs.

DR. SHAROV: Yes, but my sort of new comment was that -- Not at this moment, obviously, and we're past the point, but, in principle, we should be considering variability in F as well when doing these projections, and we're saying that everything is driven by recruitment, and, no, not only by recruitment, but just the variability in F could be sufficient enough to halt the recovery or expedite recovery, and we are not evaluating this at all in these projections.

DR. NESSLAGE: Good point. Okay, and so that's the second half of that sentence needs to be clarified, I think is what you're saying, and so the discard mortality goes with whether it's attainable, and then we should say, in the second sentence, variability in F is not included in these projections, and that's what you're getting at, that it's not accounted for in these projections.

DR. SHAROV: Yes.

DR. NESSLAGE: Okay. I love it. Okay. Thank you very much, and thank you to Judd for catching up with all of our craziness here. Anne, go right ahead.

MS. LANGE: Genny, thank you. I was just going to suggest making some of the rearrangements that you just did, and so that was the primary thing, but, also, on the last word of the second bullet, where it says, "these higher recruitment levels are accurate", shouldn't that be "are achieved", that "It will be essential to assess the recruitment from 2021 and beyond to ensure these higher recruitment levels are achieved", instead of "accurate".

DR. NESSLAGE: Yes. Thank you.

MS. LANGE: Again, the rest was just rearranging, which you have already done.

DR. NESSLAGE: Fabulous. We're on the same wavelength. I love it. All right. Let's go to Wally.

DR. BUBLEY: I just wanted to throw out a reminder, and Wilson has mentioned it a couple of times, with the fecundity of the larger females, and there is a protogynous, hermaphroditic species, and so the largest fish tend to be males, and so protecting those larger fish is more likely to have an effect on sex ratio than fecundity, in this species.

DR. NESSLAGE: If there's larger spawning stock biomass, will the sex ratio skew more to males, is what you're saying?

DR. BUBLEY: Potentially, yes, or if it's larger -- If you're looking at female spawning stock biomass, it may be more a factor of more fish than larger fish, like in red snapper, where you're expecting -- The issue that we've had is the larger fish are absent, which is bringing down the spawning stock biomass, but, in terms of gag, because they are protogynous, hermaphroditic species, those largest fish tend to be males, but the sex ratio for gag is pretty low as well, and so that could raise some other issues, but I wanted to point out that the largest fish aren't always the females that we're dealing with here.

DR. NESSLAGE: Good point. Thank you for reminding us of that. Let's go to George.

DR. SEDBERRY: I was just going to say the same thing that Wally just said, and so, in addition to discard mortality making it more difficult to achieve, protogyny makes it more difficult to achieve as well.

DR. NESSLAGE: Well said. Let's add that. Thank you both for that reminder. Let's go to Chris.

DR. DUMAS: Hi, folks. Getting back to the socioeconomic impacts again, I'm not sure if you guys asked me a question a little while ago. My audio was out for a while, and I didn't realize it, but I just wanted to say that both of these scenarios, the 60 percent and the 70 percent, both are going to have significant effects on the socioeconomics of the fishery, because we have a large decrease in landings, but my understanding of what we're doing here today is comparing the 60 percent to the 70 percent, just kind of comparing those two with each other.

I did some quick, on-the-fly analysis here, and, if you look at the landings, the gutted landings, the series, across all ten years, and you discount the landings that are happening in the later years, and I just used a 5 percent discount rate, then, when you do the 70 percent, you're still getting 86 percent of the landings across the ten-year period that you get with the 60 percent, and so a 70 percent scenario -- You're still getting 86 percent of the landings you would get with a 60 percent scenario, on a discounted basis.

Another point too, and this gets back to a comment that Fred Scharf made earlier of the potential effects on the price, price per pound, and, if you go with the 70 percent scenario, you're going to have a little bit lower landings than the 60 percent scenario, and so, with the 70 percent scenario, because you have a little bit lower landings, if there is a price effect, then you're going to have higher price per pound with the 70 percent scenario than you do with the 60 percent scenario.

With the 70 percent scenario, you're still getting 85 percent of the landings, and you might be getting a higher price per pound with the 70 percent scenario, compared to the 60 percent, and so then, when you think about the difference in revenue, revenue being your pounds times your price per pound, if you're getting 86 percent of the pounds, and you might be getting a higher price per pound, that gets you pretty close to the same, as far as revenues, discounted revenues.

I did a quick little sensitivity analysis on the discount rate, taking it from 5 percent down to 3 percent and up to 9 percent, and it has an insignificant effect, and so that discount rate -- Because you're only looking out ten years, and you're not looking out very far, and so changing the discount rate doesn't matter much, and so I will leave it at that. Thank you.

DR. NESSLAGE: Is there anything from that -- Can we pull back up the comments? Is there anything from that that you would like to add, and I saw that Scott just raised his hand as well. Jeff, do you mind if I jump ahead of you and see what Scott has in, I assume, reaction to this?

DR. BUCKEL: Not at all.

DR. NESSLAGE: Scott, go ahead.

DR. CROSSON: Thank you. Just a quick comment for Chris. Use the lower end of the discount range, because we're supposed to follow basically the equivalent Treasury bill, and so like use a ten-year Treasury bill, if you would.

DR. DUMAS: So if you use 3 percent, then you're still getting 86 percent of the discounted landings with a 70 percent scenario, compared to the 60 percent scenario, and so the short thing to put in the bullet is, with a 70 percent scenario, you're still getting 86 percent of the landings that you would get with the 60 percent scenario, and, with the 70 percent scenario, you might get a higher price per pound, compared to the 60 percent scenario.

DR. NESSLAGE: Brilliant. This is why I love our SEP.

DR. DUMAS: Now, that said, it doesn't mean -- I am not saying the fishery is not going to take a financial hit. They are, but I am just comparing the 60 percent versus the 70, and there might not be that much difference, in terms of revenues, between the 60 and the 70 percent. There's going to be a hit, but the difference between 60 and 70 percent might not be that much.

DR. NESSLAGE: We'll leave the council to decide if it is too much, right? That is fantastic. Thank you very much, Chris and Scott. Let's go to Jeff.

DR. BUCKEL: One thing that I think would be good to point out to the council, or just to remind them, and folks may disagree, that, in that very first bullet, mentioning that the -- Reminding the council that the terminal year was 2019 for this assessment, and, by the time management regulations go in, there will have been three fishing seasons, right, where the overfishing is likely to continue, and so that's -- Ideally, we would have had something go in place in 2020, to put the brakes on the higher fishing mortality, and we've had that in place now -- It would have been in place for three fishing seasons before any reduction in fishing mortality goes into place.

DR. NESSLAGE: Excellent point, Jeff.

DR. BUCKEL: Then I had one more point too, if I could.

DR. NESSLAGE: Go ahead, although do you want to wait and -- To that, Judd, can you capture that, real quick, in the top bullet?

DR. CURTIS: Jeff, do you want that in the top bullet, and can you just reiterate that?

DR. BUCKEL: If folks agree, but I feel like it's just as important as some of the items in that first bullet, which is that the terminal year of the assessment was 2019, which means there will be three fishing seasons where the fishing mortality has likely continued to be in a -- We've likely been in an overfishing situation for three more years after the assessment before management regulations go into place.

Then the other point I had was on the changes in regulations to protect larger females and larger males, and it says it is critical to increase the recruitment and rebuild the stock, and I hate to promise something, right, and we know there is, at times, situations where you have a great age structure, and the environment just doesn't allow you to get good recruitment, and so we have some indication of that now, and we have multiple serranid species in the South Atlantic that have low recruitment, and so there may be something larger environmental at play.

You can have the larger males and females, and get lots of egg production, but they're just not -- You're not getting good early life history survival, and so I hate to promise something that, if this was rebuilt, and then recruitment, at some point, was not good, people would say, well, you said if you rebuild the age structure, we're going to have good recruitment. It increases the likelihood, right, but there is no guarantee, and so it would help increase the likelihood, or something along those lines, so we're not promising something that we can't. Thank you.

DR. NESSLAGE: Thank you, Jeff, and thank you, Judd, for capturing that. Let's go to Scott.

DR. CROSSON: This question is actually directly towards Chris. Chris, one quick thought, or a question, for you, and I'm trying to reason this out in my head. Would you expect to multiply those expected benefits by P rebuild?

DR. DUMAS: Can you say that again, Scott?

DR. CROSSON: Would you expect that -- We're talking about comparing the expected benefits, properly discounted for the 60 and 70 percent P rebuild scenarios, and would you multiply the benefits, under each of those scenarios, by those different P rebuilds?

DR. DUMAS: By the different P rebuilds, and you're talking about the different time periods?

DR. CROSSON: No, the different numbers. Would you multiply the benefits under the 70 percent scenario by 0.7, and would you multiply the expected benefits under the 60 percent scenario by 0.6? I am just trying to think this out.

DR. DUMAS: No, and I took the actual estimates of the landings, the gutted base landings, from Erik's report, and I took the landings from the ten years under the 60 percent scenario, and I took the landings under the ten years under the 70 percent scenario, and, for each of those series of landings, I got the discounted value of the landings, present value of the landings, and the present value of the landings under the 70 percent scenario is 86 percent of the present value of the landings under the 60 percent scenario.

DR. CROSSON: No, and I follow that, but I am just thinking that the council is more likely to get the landings of the 70 percent, versus the 60 percent, according to the biological models, right, but shouldn't the council take that into account?

DR. DUMAS: Are you saying if they choose the 70 -- I am not understanding what you're asking. If they choose the 70 percent scenario?

DR. CROSSON: No, and maybe we'll talk about this -- I am just saying, if they choose the 70 percent scenario, they are more likely to get it, because, again, it's P rebuild, right, and so they're more likely to get the 70 percent than they are the 60 percent, and that's why they are being proposed as --

DR. DUMAS: I see. I see. Right. If they choose a 70 percent scenario, then they're more certain that they're going to get those landings than if they choose the 60 percent scenario, because there is more uncertainty with the 60 percent. There is more uncertainty with the 60 percent, and so that's a good point, and that point is not included in the statements that I made earlier.

DR. CROSSON: Right.

DR. DUMAS: So, if you include that point that you just made, then that makes the 70 percent scenario even more preferred, relative to the 60 percent. It makes the 70 percent scenario even more attractive, relative to the 60 percent scenario.

DR. CROSSON: That is my -- Yes, that is my logic.

DR. DUMAS: If you take the differences in uncertainty between the 70 and the 60, and the statements I made earlier did not take the differences in uncertainty, and they were just looking at the differences in the means, the averages, but you're right. If you take the differences in uncertainty into account, then that makes the 70 even more attractive, relative to the 60. Thanks. Yes, that's a great point.

DR. CURTIS: Scott, can you help me wordsmith that into this later bullet point here?

DR. CROSSON: Yes, I can. I'm sorry. Right now?

DR. CURTIS: Yes, that was the goal.

DR. CROSSON: Okay. Which -- The expected benefits scenario are more --

DR. DUMAS: There is less uncertainty in the landings from the 70 percent scenario.

DR. CROSSON: Right, and so you would -- Chris, help me word this. When you're looking at an expected return, you're going to look at the probability that you're going to get it as well as well as what the benefit is going to, properly discounted.

DR. DUMAS: That looks good, what you've got written right there.

DR. CURTIS: Okay. When we send out this draft for comment and edits, that can be a bullet that you guys can further wordsmith.

DR. DUMAS: You might want to make it clear that the higher price per pound refers to the 70 percent scenario, higher price per pound under the 70 percent scenario, and you could put, in parentheses, "higher price pound", and then end parentheses, "under the 70 percent scenario. Thanks. Sorry to go on so long. Thank you.

DR. CROSSON: That's going to depend on the price elasticity, but there's certainly no logic that would suggest that it would go the other direction.

DR. DUMAS: Exactly.

DR. NESSLAGE: Great. Thank you, both. I appreciate it. I am not sure which Fred, but we'll let whichever Fred would like to speak to speak up.

DR. SERCHUK: I agree with Wilson's comment about the protecting large, fecund females, but I think that sentence is internally undermined by the last sentence in the paragraph, that discard mortality, protogyny, and other environmental factors may make this difficult to achieve. I am not so -- As it is, I don't think the statement is -- That point is very easy to understand.

Certainly environmental effects affect everything, and it affects growth rates, and it will affect distribution patterns, and so on and so forth, and I would rather see the last sentence, that discard mortality, protogyny, and other -- That be stricken, and I would -- To account for some of those

comments, I would say, instead of "would help", say "could help", and just leave it at that. I think we're being just too -- We're making a statement here that sort of undermines the first sentence. I don't doubt that it's true, but it doesn't seem very helpful to have that second sentence in there, because it could apply to other things as well, in terms of environmental, and that's for sure. Do I make myself clear, Chair?

DR. NESSLAGE: I think so, but, if anyone disagrees with that change, just raise your hand, and we'll hash it out. Does that sound fair?

DR. SERCHUK: It's fair to me.

DR. NESSLAGE: All right. I like it. Anne, go right ahead.

MS. LANGE: I agree with both of Fred's suggestions, changing it to "could", and also removing the second sentence, but, also, on the last bullet that we were just working on, I was thinking we should probably include "potential", "contains 86 percent potential" -- Wait. That's not the right one. Wait a minute. Now I have lost my place. I'm sorry. I am watching the screen go up and down. As opposed to saying there is going to be an increase in landings, there's a potential increase. The potential additional benefit of a higher price per pound, and that's what it was. It's "a potential higher price per pound", as opposed to saying, again, that there will be a higher price per pound. I'm not sure where the "potential" should go, but that's what I meant. Thank you.

DR. NESSLAGE: Great. Thank you. Chip, go ahead.

DR. COLLIER: Thanks. I just wanted to address a point in the first one about the landings being very high, potentially, and causing overfishing. If you look at what is in the projection table, compared to what was in the landings from the SERO page for the commercial fishery, and then looking at some of the FES tables for the recreational fisheries, at least in 2020, they did not achieve that 539-pound catch level, and so that's going to have an influence on the projections as well, and 2021 isn't finalized yet, and so I don't have an estimate there, but the commercial fishery -- That one is somewhat finalized, and it's not looking like we're going to get close to that 539 as well.

DR. NESSLAGE: Just to clarify, they're under, correct?

DR. COLLIER: Yes. In both these situations, they're under, it appears.

DR. NESSLAGE: Great. Thank you, Chip. Wilson.

DR. LANEY: Thank you, Madam Chair, and this is a question for Wally and George. In the bullet where we talk about -- Let's see. I lost my place, and I'm like Anne here. Let's see. It's third up from the bottom. We say changes in regulations to protect larger, fecund females, and would it be -- In view of Wally's point about the larger individuals mostly being male, would it be clearer here if we said changes in regulations to protect older, more fecund females, and just get rid of the "larger" part? Would that clarify anything?

DR. SEDBERRY: I don't know if that really addresses it, because larger fish are older, and the older and larger fish are males, because they are protogynous, and, in actuality, in the past, in the

South Atlantic, and presently in the Gulf, there has actually been concern about too few males, that they're down to 2 percent males in the Gulf, and there may actually be sperm limitation, or at least it's a concern.

I think the idea here is that protecting larger, older fish, in this case, does not necessarily protect spawning biomass of females, and it might protect males, and so, if you're trying to get a protecting larger, fecund females, it's a lot more complicated than the way it's stated, because it's not just the largest or the oldest fish, and it's fish that haven't changed sex yet, and that's really hard to regulate for. Wally may have something to add to that.

DR. LANEY: Thanks, George, for weighing-in on that, and I will defer to you and Wally, since you understand the biology of this species a whole lot better than I do, and I was just trying to capture a lot of the recent management advice that I have seen, from several review papers that say, you know, if you want to have a sustainable fishery, you need to have a good age structure and protect those older and larger females, in every case, realizing what Jeff said too, and it's totally valid, which is that, even if you have a robust spawning stock out there, the environmental conditions could, you know, reduce the year class production in any given year, and so it's always a crap shoot.

DR. SEDBERRY: What you're saying, Wilson, is absolutely correct. We need to protect the large, older spawning females, but it's just difficult to implement, because the largest, oldest fish are not necessarily females, and so, if a fisherman catches a big fish, what does he do with it, or, if we implement a size limitation, or even a slot limit, where do you place it? It's just very complicated to implement. What you're saying is true, but I think it's just very difficult to implement, which makes management more difficult.

DR. NESSLAGE: All right. Thank you, both. Let's see what Wally has to say.

DR. BUBLEY: Not really anything to add on top of George, and that's basically the same points that I was going to make, and it's just really difficult to try to thread the needle with some of these hermaphroditic species, if you're looking to protect the female aspect of it. Thanks, George, for covering that so well.

DR. NESSLAGE: Hopefully we will have the problem of having so much spawning stock biomass that we've got an abundance of males. Right now, we're at pretty low levels, if I remember correctly, but thank you for revising all that wording. That's good. Other comments on our consensus statements so far? Does anyone feel that these are not consensus? This is the time to speak up. It's okay to disagree. We want to hear from you, and this would be the time, and especially those who have not spoken. Kai, go right ahead.

DR. LORENZEN: I actually just wanted to speak to agree, and so I've been sort of mostly watching today, being new to the stock and to the way you run the SSC, but I think you have a really good sort of well-formulated set of advice here, and so I just wanted to agree. Thank you.

DR. NESSLAGE: Excellent. Thank you, Kai. Let's go to Fred Serchuk.

DR. SERCHUK: Thank you, Chair. I just have a question about the terminology. I see there are two bullets that contain the word "P rebuild", and one is the lower bound in the prediction indicates

a significant -- for the 70 percent P rebuild", and there's another one on the bottom, the difference between P rebuild projections". Will the P rebuild be understood by most individuals?

DR. NESSLAGE: You mean on the council? This is directed at the council.

DR. SERCHUK: Yes.

DR. NESSLAGE: Yes, I think they -- Well, what aspect are you talking about? I don't know the extent to which --

DR. SERCHUK: Just the terminology of "P rebuild".

DR. NESSLAGE: It's "P rebuild", and we'll clean it up when we do the report.

DR. SERCHUK: Okay. Fine.

DR. CURTIS: Yes, Fred, and that's supposed to be "P rebuild".

DR. SERCHUK: Sorry. It's not one word. Sorry. You can see that I misread it.

DR. NESSLAGE: If it's not clear, we --

DR. SERCHUK: Good thing I'm not on the council.

DR. NESSLAGE: If it's not clear when you see the draft, ping me, and we'll clean it up. All right. Amy, go right ahead.

DR. SCHUELLER: I've been pretty quiet, and I'm happy with these statements, and I think this discussion went the way I -- Well, I don't know if it went the way I thought it was going to go, but I am happy with the way it went. I have one extremely nitpicky thing, and it's just that, in the -- I think it's the second-to-last bullet, and it says, "recommend the council maintain a rebuilding plan", and then it says, "at level they decide", and can we just get rid of that parenthetical? I don't know that we need it. I know we've had the discussion about that, but I just think it's unnecessary. We're basically saying pick a rebuilding plan, and we should evaluate it. Otherwise, I think this stuff looks good to me.

DR. NESSLAGE: Great. Thank you, Amy. Thanks for making those adjustments, Judd. Anyone else we haven't heard from who would like to speak? Anyone in disagreement with any of these statements before they become consensus? No hands. All right. I think we have a very thorough response to the council. Jennifer, go right ahead.

DR. SWEENEY-TOOKES: I think I clicked my button right as he typed "no hands". No, but I've been silently listening and following along, and I wanted to say that I appreciate the reasoning and the discussion.

DR. NESSLAGE: Excellent. Thank you. All right then. Obviously, I will take a crack at cleaning this up a little bit this afternoon, and we'll take one more look before the end of the meeting, just

in case you have any last-minute thoughts, but I think we're getting to a pretty solid place here, and then you will, obviously, have a chance to wordsmith the final report over the next week.

Let's take a look down, and the tables are already -- I believe, Judd, you already populated both the 60 and the 70 percent probability of rebuilding tables, and so they're already done, thanks to his outstanding work, and we'll double-check numbers when we take a look at the report, but they will both be in there, correct, or are we going to --

DR. CURTIS: Yes, Genny, that's correct, and so there's one table here for the gag recommendations using a P rebuild of 70 percent and then a second table using a P rebuild of 60 percent, and so, if the committee would just double-check those numbers, based on the projections from Erik's report, and then we can verify those.

DR. NESSLAGE: Outstanding. Thank you for doing that in advance, Judd. That saves us a lot of time. Then I believe our -- The last one, I'm not sure, and I feel like, unless people have anything in addition to add, regarding any difficulties we ran into applying the ABC Control Rule, I can just grab the wording from our spring meeting, when we applied the ABC Control Rule, and it had to do with -- In fact, I can read it for you, and I think I have it right here. Hold on one second.

We said the SSC discussed overall uncertainty in recruitment, both natural variability and the apparent recent time period of low recruitment, as mentioned above, and this has to do with the red -- The SSC recommends that a working group be formed, and so I'm wondering if we want to just say that we continue to struggle -- Well, we didn't rehash the recruitment issue, other than it is a source of uncertainty, but perhaps we just want to mention that we look forward to the recommendations of the working group, which we'll see in April, that will help guide us in future ABC Control Rule applications for species with very low recruitment, or something like that.

I don't know if folks want to add anything, and I feel like we did this back almost a year ago, and we haven't deviated from our control rule, and so I'm not sure we have much to say here, but I'm open to suggestions. I don't think we need to belabor it though, and I'm not seeing any hands, and so I'm going to assume then that you all are comfortable with -- Go ahead, Jeff.

DR. BUCKEL: Just maybe the first bullet could just say that there were no difficulties to address, or to comment on, on any difficulties encountered. Thanks.

DR. NESSLAGE: Except we didn't -- This is where I struggle with this, because we did when -- We had extensive discussion at the April/May meeting, but we just didn't rehash the ABC Control Rule at this meeting, and so maybe we just need to say that, and I don't know. Sorry to disagree with you, but I just --

DR. BUCKEL: I am coming from the point of view of just setting the P* right, and that was, I guess --

DR. NESSLAGE: Yes, that's true.

DR. BUCKEL: That part of the ABC Control Rule, I guess, the 30 percent, where that came from.

DR. NESSLAGE: That's true. You're right, and so maybe we just clarify in setting P*. Okay. I'm onboard.

DR. BUCKEL: Excellent. Thank you.

DR. NESSLAGE: No, thank you. Sorry for that. Wilson.

DR. LANEY: Yes, ma'am, and I was just going to agree with your suggestion that we add that second bullet there.

OTHER BUSINESS

DR. NESSLAGE: Excellent. Anything else on this bullet and difficulties encountered in applying the ABC Control Rule? Thank you, Judd, and thank you all. Then I believe we can move on to Other Business, and we'll come back and take one last look at these in a moment. The one piece of Other Business that Anne brought up is a good one, and I'm glad she did, and it has to do with our data-limited working group, which we got the go-ahead from the council to go ahead and to look at the possibilities for three unassessed stocks, ideally with different fishery types and data amounts, if you will, quality and quantity.

At the October meeting, we formed a working group of Amy, Wally, Anne, and myself, but no one stepped up to be the chair, and this is the -- There is a couple of things going on here, and one is that I am currently, obviously, chairing the SSC, and I am not going to try to do a working group as well at the same time, and Amy is fearlessly chairing our recruitment projections working group, and so, unless someone else would like to join us and chair, or Wally or Anne or Amy want to reconsider chairing, we need a fearless leader to take this on. I would love to see this working group get kicked off and work hard, and I am willing to participate, but I just can't lead right now.

The one thing I would add, while people are mulling this over, is that we may be looking to our state reps on this group, depending on the species that we pick, or the stocks that we pick, and we may looking to you guys to help us contribute either your expertise and/or your data, and so be on the lookout for things from us, and I think, when we choose our species, we will try to pick some that are either region-wide or are a balance between the northern and southern portions of our region. Kai, go right ahead.

DR. LORENZEN: I was just volunteering.

DR. NESSLAGE: Fabulous. For the group and/or to chair?

DR. LORENZEN: And/or. Whatever you see fit.

DR. NESSLAGE: We would -- We really could use a chair. That would be -- And, obviously, a member, and that would be fantastic, if you wouldn't mind.

DR. LORENZEN: Okay. I will do that. Thank you.

DR. NESSLAGE: Thank you. It's greatly appreciated. All right. Then I can fill you in a little bit on what that group has been charged with, and hopefully we can get that group working. Anne, does that address your comments and concern about the group?

MS. LANGE: Yes, it does, and thank you, Kai.

DR. NESSLAGE: Wonderful. I appreciate everyone volunteering.

DR. CURTIS: Genny, just a little follow-up on that group. The council, in March, will be discussing -- That's on their agenda, is some of the data-limited aspects, and so we'll have a little bit better idea of what the timeframe for the working group will be coming out of the March council meeting.

DR. NESSLAGE: Excellent. Thank you. So expect more in probably mid to late March, if you're on the working group. Any other -- I think we don't need to worry about the golden tilefish terms of reference thing, and I believe Chip said there was no difference between our recommendations, right, Chip, and the Center negotiations with the council?

DR. COLLIER: That is correct. Everything that you guys have put in there and for the draft statement of work, back in October, the Center had agreed to, and so we'll take the information that you guys had put together and draft some terms of reference for that, and you guys will have an opportunity to review them.

DR. NESSLAGE: Fabulous. Thank you, everyone, and thank you to the Center for their efforts there as well. I forgot to thank Erik, one more time, for his presentation on gag. Thank you, Erik, and please pass on our thanks to Kevin. Any other Other Business? Going once. Kai, go ahead.

DR. LORENZEN: It's sort of a new member question, I guess. I was wondering whether the SSC has had any discussions about how to handle the fish count projects when they report, and I know we have the South Atlantic red snapper count and the greater amberjack count, for which I happen to be on the steering committee, and, of course, we've sort of seen the Great Red Snapper Count in the Gulf hit the management advice process last year, and one of the lessons from that has been the idea that probably the SSC, in collaboration with the council and the Science Center, should start earlier, rather than later, to sort of lay out the process for how that would be reviewed and incorporated into management advice and so on.

I think the earliest would be, obviously, the South Atlantic red snapper count, and that's not due for another year, I believe, but it would be good to have some discussions about this early on, and I was wondering whether the SSC has had any discussions yet or if there's a plan to do something this year. Thank you.

DR. NESSLAGE: Thanks for bringing that up, Kai. During our discussions of red snapper, I recall our recommending that methods be developed in advance of the next assessment, because the timing is very similar, as to when the next assessment and the count results will come out. We did not recommend that we be involved, per se, but, if the group feels that that's a recommendation that should be passed along, let's have a discussion about that. To that point, Judd?

DR. CURTIS: Yes, Genny, and, Kai, great point, and that's going to be -- Both of those presentations we're going to get in the April SSC meeting, just a brief overview of kind of the -- Or maybe a more in-depth overview of the methods for both the greater amberjack count and the South Atlantic red snapper count, and the discussion I think should be how they're going to move forward with incorporating those into management advice, just as you mentioned, because it has been difficult in the Gulf case as well, and so that is coming up for our April SSC meeting, and so just to make everyone aware that that conversation will be coming up.

DR. LORENZEN: Okay. That's great. Thank you.

DR. NESSLAGE: Yes, and I will put it on my to-do list that we revisit any recommendations regarding that, Kai, when we get to that briefing in April. Does that sound good?

DR. LORENZEN: Yes, that sounds good. Thank you.

DR. NESSLAGE: Great. Can we just make a note in Other Business, so I don't forget, and we can just make sure we bring that up and have that -- Remind me to have that discussion, if Kai forgets, and others forget. Wilson, go right ahead.

DR. LANEY: Thank you, Madam Chair. This is per an earlier discussion that you and I had, and I think we were just going to remind everyone that, because yours truly got dinged by the IRS last year, that, if you earn more than $400 in non-employee compensation from the council, you need to fill out Schedule SE and estimate your self-employment tax on that income, just as a reminder.

DR. NESSLAGE: All right. Thank you, Wilson. Jeff.

DR. BUCKEL: Just on the South Atlantic red snapper count, there was a second pot of money, and that has moved the deadline for when the product is due, and so, instead of the 2023, it's probably going to be 2024 or 2025, and I can't remember exactly, and Will Patterson is leading that effort, and I hope that he'll be the one giving the presentation in April, and so he can confirm that, but the deadline for that one has been pushed out, because of the extra funding that came online.

DR. NESSLAGE: What was the date on that again?

DR. BUCKEL: It's 2024 or 2025, and I think it's 2025, and so two years farther out than what the original --

DR. NESSLAGE: Great. Thank you for that, Jeff. Is there other Other Business? All right. Then let's take a moment to see if there is any additional public comment, before we wrap up our consensus statements and adjourn. If anyone from the public has comment, please raise your hand, using the little Go to Webinar turkey button. No hands raised. All right. Thank you very much. Okay.

Our tradition to take one last look at the consensus statements, if you could scroll back up, Judd, and, if anyone -- We only have one agenda item, really, here, and so, if anyone has any last-minute concerns. It looks like we had a delayed hand-raise here, and so I'm sure that folks were fumbling with the webinar buttons. Jack, would you like to speak? Please go ahead.

PUBLIC COMMENT

MR. COX: My name is Jack Cox, and I am a Snapper Grouper AP member, and a former council member, but I certainly liked you looking at the 70 percent rebuild plan for the gag. I can tell you that there will be a cost-benefit for the for-hire price, if we go to the 70 percent, and I've been fishing for gag for forty years, since the 1980s, and we definitely are in dire straits on that fishery. I just suggest that you guys go with the most aggressive rebuilding plan, unlike we did with red grouper.

I don't know if we'll ever see a gag fishery like we saw in the 1980s, but I would certainly love to see us get back to a place like we saw in the late 1990s or early 2000s, and so thank you for all your efforts and hard work, and, if there's anything that we can do at the AP level, please let me know, and I will continue to follow the SSC's work and carry it to the council level, in public comment, and so thank you very much.

CONSENSUS STATEMENT AND RECOMMENDATIONS REVIEW

DR. NESSLAGE: Great. Thank you, Jack. Any other hands raised? Wonderful. It's greatly appreciated. All right. SSC members, take a peek at these consensus statements, and, if anything other than minor wordsmithing jumps out at you, this is the last chance to change these consensus statements. If anyone needs more time, give a holler, but maybe we could scroll down then. The last few of these were the minor ones. You will have a chance to inspect the table when you see the report draft.

I am not seeing any hands, and so that means that I will take a crack at revising the minor wordsmithing this afternoon, and I will send it out to you by the end of the day. We have a quick turnaround on this, and so I would appreciate if folks could get me edits back by next Friday, and I will get the report and my PowerPoints for the council to the council staff by the following week, and so it will go in Late Materials, but better late than never.

Just a reminder that wordsmithing only, and the main intent of the statements will not change, and so any questions or comments? Last chance to provide anything, any thoughts, on consensus statements. I am not seeing any hands, and so thank you all for your hard work on this. I appreciate it, and I think we have a good report that we're going to flesh out here.

Just some announcements. Our next meeting is set for April 25 to 28, and this will be a joint meeting with the SEP, and I'm excited for that, and we'll hopefully be in Charleston, and then just keep in mind that we will be having some interim webinars now, I believe, to handle some interim issues between our spring and fall meetings, and so anticipate something coming along the lines there for either June or July. Then just a note that the March council meeting is coming up very quickly, and we'll remind you of the additional dates, and they're there in the agenda. Let's see. We have some comments from Fred Serchuk, first.

DR. SERCHUK: Thank you, Chair. It concerns the April meeting. I know we all want to meet in-person, but is there any consideration that it might be a hybrid meeting, or, at worst, if it doesn't come about, we'll have to have another webinar, and how sure are we that it will be an in-person meeting?

DR. NESSLAGE: That's a great question, Fred. I am going to toss that one to council staff.

DR. CURTIS: Fred, good question. All indications are pointing towards that we are going to have a live meeting, but, of course, depending on how the pandemic unfolds, and, if things change drastically one way or another, then there is the potential for it to switch to an online meeting, but, as of right now, just following all the guidelines from the CDC, we're looking at a live meeting.

DR. SERCHUK: Okay, but could it be a hybrid meeting?

DR. CURTIS: Yes, and certainly we'll have the capabilities to run hybrid, and not all presenters will be able to attend in-person either, and I know NOAA federal still has a lot of restrictions on travel, and so, with that consideration, amongst others, there will be a hybrid option, although we are encouraging people to participate in a live meeting, and it's a lot more productive that way, but I understand your concern as well.

DR. SERCHUK: Okay. Thank you.

DR. NESSLAGE: Thank you, Fred. Let's go to Fred Scharf.

DR. SCHARF: Genny, this is just also a question for Judd about the structure of that April meeting, and so can you just comment on the joint nature of the meeting and whether -- So it is going to start -- I had it on my calendar for Tuesday to Thursday of that week, and so it is going to start on a Monday and sort of what do you anticipate? Is the first part of the meeting going to be SEP, and then the SSC would start on Tuesday? Can you just talk about that a little?

DR. CURTIS: Fred, that's exactly correct, and so the SEP will be meeting from Monday at 1:00 until Tuesday morning, around noon, and then the SSC will meet starting Tuesday afternoon through Thursday at noon, and so those dates are a little bit deceptive, and that's inclusive of both the joint SEP and the SSC.

DR. SCHARF: Thank you.

DR. NESSLAGE: Are SSC members welcome at the SEP? How does that work?

DR. COLLIER: I can take that.

DR. CURTIS: Chip, can you take that? I am assuming you're welcome, but that would be my first live meeting, and so I'm not certain.

DR. COLLIER: What we've done in the past is it's generally been just SEP members that attend the SEP meeting, and then they will provide you an update at the meeting, in regard to their findings.

DR. NESSLAGE: So maybe we want to clarify this, because I think there's some confusion. I thought we were having a -- Do you just mean they're joint as in they're back-to-back?

DR. CURTIS: Correct.

DR. NESSLAGE: Ah-ha. Well now I'm less excited. Go ahead, Scott.

DR. CURTIS: Maybe Scott will get you excited again.

DR. NESSLAGE: Yes, maybe.

DR. CROSSON: I just wanted to say that anybody is welcome to attend. Marcel used to often attend. Of course, he lived in Charleston, and so that made it easier for him, but, when he was the chair of the SSC, he used to attend SEP meetings and enjoyed it, and I've seen Fred Serchuk show up early before and watch, and so, if anybody happen to be in town, or get there in time, you should certainly watch it.

DR. NESSLAGE: Great. Thanks. John Carmichael.

MR. CARMICHAEL: Thanks. I was going to clarify what Scott did, and these are open public meetings, and anyone is welcome to attend any of them, member or not. The only question, of course, is what does the council provide you as far as travel reimbursements, and then, as Wilson noted, there are some members who receive stipends, and so it would also be for stipends. Now, with the SEP meeting being Tuesday afternoon, if the leadership felt there were some issues that would benefit from a joint discussion, then that is something that could be considered, perhaps, for Tuesday afternoon, and so maybe we can restore some of your excitement, Genny, if you think there are some issues where that specialized expertise of the SEP might be helpful to you.

DR. NESSLAGE: I guess, when we see the agendas, that might be the time to discuss that. I know we've had some very productive discussion today even on some topics, and so I think maybe we can chat, as we're developing agendas, and see if there's a need and/or commonality in our work and interests. Wilson.

DR. LANEY: Thank you, Madam Chair. I think John just answered most of my question, and I was going to postulate that it sounds to me then that SEP attendance by SSC members, with the notable exception of yourself,, would be optional, unless you decide to have a joint session on Tuesday, in which case SSC members should plan on attending as well, and I guess the bottom line is, per John's comment, if you attend the full SEP meeting, those of us who receive a stipend would not be compensated for that, but would be compensated if you and Scott and council staff decide that a joint session is beneficial. Do I interpret all of that correctly?

DR. NESSLAGE: I think so. I think that grabs at it, or captures it.

MR. CARMICHAEL: Yes, that's correct.

DR. NESSLAGE: So sorry about the wording there, but it sounds like we're --

DR. CROSSON: Wilson, you would be compensated in learning, in just the endless wisdom that comes forth from talking and listening to economists and social scientists.

DR. NESSLAGE: That's why I'm so excited.

DR. LANEY: Thank you for that, Dr. Crosson. I appreciate that.

DR. NESSLAGE: Christina, is it to that point?

MS. WIEGAND: Yes, and I agree with both John Carmichael and Scott. These meetings are open to the public, and you guys would, of course, benefit from the endless wisdom of the SEP. I just also wanted to remind you that you do have overlap between the SEP and the SSC, and you've got, of course, Scott Crosson and Chris Dumas and Jennifer Sweeney-Tookes are both on the SEP and on the SSC, and so there is that overlap.

DR. NESSLAGE: Excellent. Thank you. Fred Serchuk.

DR. SERCHUK: Just a point of information. As Scott has pointed out, there was at least one SEP meeting that I attended, and I was fortunate to do that, because I requested travel on a Monday to go to the SSC meeting on Tuesday, because, otherwise, I would have to take a 6:00 flight in the morning to get there in time for the afternoon, and so I was given that dispensation to travel on Monday to go to the SSC meeting on Tuesday, and, because I was traveling on Monday, I did receive the stipend, because it was preapproved. That may be just an exigency in terms of my travel schedule, but it's not as if you -- If other people are in that position, that they will not be able to get to an afternoon meeting on Tuesday, because flights are just untimely to do that, you can request to travel early, if you get the approval of the council staff. Thank you.

DR. NESSLAGE: Thank you. I am looking, and is the actual briefing book deadline next Friday and not late materials, but the regular briefing book deadline?

DR. COLLIER: The internal deadline is actually Tuesday. It's going to be in late materials.

DR. NESSLAGE: All right. Great. I just wanted to check. Okay. Any other Other Business of any sort to come before the SSC? No hands. All right. Folks, I greatly appreciate your time this morning and your efforts in drafting our consensus statements, and I will look forward to your edits over the next week, and I also look forward to chatting with you again in April. Thank you very much for your time, and thank you, staff. Have a great day.

(Whereupon, the meeting was adjourned on February 11, 2022.)

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Attendee Report: Scientific & Statistical Committee Meeting

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Attendee Details

Attended	Last Name	First Name
Yes	Addis	Dustin
Yes	BROUWER	MYRA
Yes	BYRD	01JULIA
Yes	Bianchi	Alan
Yes	Bubley	Walter
Yes	Buckel	Jeff
Yes	COX	JACK
Yes	Cao	Jie
Yes	Carmichael	John
Yes	Cheshire	Rob
Yes	Crosson	Scott
Yes	DeVictor	Rick
Yes	Dumas	Chris
Yes	Finch	Margaret
Yes	Fitzpatrick	Eric
Yes	Flowers	Jared
Yes	Grimes	Shepherd
Yes	Guyas	Martha
Yes	Hadley	01John
Yes	Helies	Frank
Yes	Iberle	01Allie
Yes	Laney	Wilson
Yes	Lange	Anne
Yes	Li	Yan
Yes	Lorenzen	Kai
Yes	Marhefka	Kerry
Yes	McGovern	Jack
Yes	Murphey	Trish
Yes	Nesslage	00 Genny
Yes	Ramsay	Chloe
Yes	Records	David
Yes	Reding	Brandon
Yes	Scharf	Fred
Yes	Schmidtke	01Michael
Yes	Schueller	Amy

Yes	Sedberry	George
Yes	Serchuk	Fred
Yes	Sharov	Alexei
Yes	Strelcheck	00-Andy
Yes	Sweeney Tookes	Jennifer
Yes	Travis	Michael
Yes	Wiegand	01Christina
Yes	Williams	Erik
Yes	smit-brunello	monica