

# **SOUTH ATLANTIC FISHERY MANAGEMENT COUNCIL**

## **SCIENTIFIC AND STATISTICAL COMMITTEE**

**Crowne Plaza Hotel  
North Charleston, SC**

**April 9-11, 2013**

### **SUMMARY MINUTES**

#### **SSC Committee**

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Dr. Scott Crosson  
Dr. Tracy Yandle  
Dr. Sherry Larkin  
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#### **Observers/Participants:**

Rusty Hudson  
Dr. Kyle Shertzer  
Kevin Craig

Katie Andrews  
Dr. Erik Williams

Other Attendees Attached

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The Scientific and Statistical Committee of the South Atlantic Fishery Management Council convened in the Crowne Plaza Hotel, North Charleston, South Carolina, Tuesday afternoon, April 9, 2013, and was called to order at 3:30 o'clock p.m. by Chairman Luiz Barbieri.

DR. BARBIERI: Good afternoon and welcome to the April South Atlantic Council's SSC Meeting. Before we get started with a review of our agenda, we will start with introductions beginning there on my left with Stacey; just say your name and institution, please.

DR. YANDLE: Tracy Yandle; Emory University.

MS. LANGE: Anne Lange.

DR. LARKIN: Sherry Larkin; University of Florida.

DR. BUCKEL: Jeff Buckel; NC State University.

DR. VAUGHAN: Doug Vaughan; Beaufort.

DR. GRIMES: Churchill Grimes.

DR. CROSSON: Scott Crosson; NOAA Fisheries.

MR. CARMICHAEL: John Carmichael; staff.

DR. BARBIERI: Luiz Barbieri; Florida Fish and Wildlife.

DR. REICHERT: Marcel Reichert; South Carolina DNR.

DR. BERKSON: Jim Berkson; Southeast Fisheries Science Center.

DR. BELCHER: Carolyn Belcher; Georgia Department of Natural Resources.

DR. DUVAL: Michelle Duval; Council liaison.

MR. COLLIER: Chip Collier; North Carolina Marine Fisheries.

DR. JOHNSON: Eric Johnson; University of North Florida.

DR. BARBIERI: I would trust that all of you have looked at the meeting agenda. At this time I would like to ask for any potential corrections, modifications or suggestions for the meeting agenda, if any. Seeing none; we will have the agenda approved as is. Moving on to approval of our last meeting minutes, which were distributed as part of your briefing book; are there any corrections or suggestions for modifications regarding the meeting minutes from our last meeting? Seeing none; we'll consider the meeting minutes approved as they are. Moving on to our Agenda Topic Number 2, public comment; are there any members of the comments who would like to make a statement at this time or present any comments?

**MR. HUDSON:** Thank you, Luiz and the SSC Panel. I'm Russell Hudson and I'm representing the East Coast Fisheries Section at this meeting this week. I have already distributed written comment to the SSC. I believe everybody has had a chance to review it. We tried to stay with the high points for the black sea bass.

We're looking forward to seeing what the ABC discussion will yield. At the last SSC meeting, I personally had heard about the fishery-dependent data becoming less reliable in modeling for vermilion snapper, and now I see the same wording in regards the black sea bass. That makes us feel a little problematic about the seasonalities, the closed season, the split seasons and everything else that is leading to these affects, and sometimes the best data that we do have is fishery-dependent data.

I don't know if we've had enough time for some of the fishery-independent data to catch up. But with that said, we're looking forward to the dialogue that will be going on with regards to that; the ABC Rule. I had asked earlier also about the peer review process for third party assessments, and I don't think that is a complete scenario yet from what the chairman had advised me off record.

One of the things that strongly jumped out at us was the date for SEDAR 41. We know that it is going to incorporate the 2013 data for red snapper next year, but it is starting in August and then the final product won't be available until about April of 2015. The thing that bothers us is that we feel that having a physical assessment workshop with the stakeholders is extremely important. I can't emphasize that enough; we need to have that kind of meeting.

We had it with SEDAR 24. Albeit there was only one fisherman at SEDAR 15; they had it there also. Just recently SEDAR 31 for Gulf red snapper had started out, I believe, as a standard assessment that then morphed into a full benchmark, and they do and are completing an assessment period right now which did have a physical assessment workshop.

Also, they saw well enough that with the SEDAR 38 for king mackerel that starts this December, which will have a final product by next summer, that it also will have a physical assessment workshop. Anytime that we are having full benchmarks, from a stakeholders' position we do believe that it is extremely important to have the stakeholders and an industry scientist or scientists, even the NGO scientists. We are not picky.

We just think that having our scientific representation with an open microphone, the ability to look at the private FTP site, and the working papers while they're in draft is a fundamental part of this process that we had gotten used to since at least I have participated in it since SEDAR 11. Without that, we feel like the transparency is disappearing. With that said, we're hoping that the SSC will be able to back us up on that and that the council's chairman and vice-chair and others in the council will help us to get to that point.

The last thing that I want to say is that this recent red snapper season that we had this past year; of course, we still don't know what the discard levels are from the recreational and I guess the commercial. But one of the things is that we want to compliment the Fish and Wildlife Commission in the State of Florida for having helped us to really go out and gather a lot of data.

I believe the other states had other efforts, and I can't speak to them as strongly as I can to what I've seen with Florida's production so far. I did see the alarms go up with some MRFSS/ MRIP stuff in regards to Georgia's recreational landings this past season. It just looked unbelievable even to a lot of the Georgia people.

MRIP I know is supposed to replace MRFSS, and I've already seen several cases going on last year and this year with the recreational landings that raised red flags and need to be examined, bar jack, Atlantic spadefish. There are a few others there. Some of the complexes, we definitely need to break some of that up, because you have got a lesser amberjack with a very small ACL and you have banded rudderfish and almaco jack that just almost demand to have a standalone quota.

I mean, bar jack is like 6,800 and some pounds as a standalone quota, but last year the commercial only caught 52 percent, roughly. This year they are already at 40 something percent of that same amount. The recreational has double that, but last year they landed like 1,700 pounds I guess is the way that one wave worked; but they had zeros for all of the other five waves. I know this ORCS discussion that we had just finished for the last two days should have a continuum so that you examine all of those third highest levels thus far. With all that said, thank you for your time and I look forward to a good SSC meeting.

DR. BARBIERI: Thank you so much, Rusty, for your comments and input. The committee will take them into account. Moving on to our next agenda item, SEDAR activities; we are supposed to have an overview review report from John Carmichael.

MR. CARMICHAEL: We have a number of items to discuss related that SEDAR wanted us to bring you up to speed on the last discussions that the Steering Committee about the assessment list, to look at things that are planned for 2014 and give you an overview of the schedule; and then some approvals and discussion for SEDAR 38, which is king mackerel.

Scroll on down first looking at your overview; here is a summary of where things stand in terms of looking at potential stocks to assess through 2017. We're in 2013 now; you can see the four things that are being done; a benchmark of triggerfish and blueline tile; a standard assessment of snowy; and then a black sea bass update which you will be reviewing tomorrow.

In 2014 will be a red snapper benchmark, a red porgy benchmark and a gag update. Up until the last Steering Committee meeting, we had also planned a greater amberjack update in 2014, but that has been dropped due to workload concerns with doing the two benchmarks and one of them being red snapper and the expectation that that is going to be challenging given the impact on data collection of the management actions over the last couple of years. They felt that three stocks were going to fill up the abilities right there in 2014.

Then we look ahead to 2015; we're hoping that we'll be back up to getting four slots from the Science Center devoted to South Atlantic stocks. Kind of how this works is that the Science Center gives the Steering Committee, and then through the Steering Committee the council a sense of how many assessment slots they have. It is typically around four for the South Atlantic.

Right now the priorities for 2015 are gray snapper, a benchmark; dolphin and wahoo; then possibly tilefish; then the questions marks surround things like red grouper, vermilion, and

greater amberjack for updates. These things have been kind of bumped along really as sort of rolling these balls out ahead of us as things roll down the hill, and we deal with the workload realities in any particular year.

You see it gets down the road, it gets to be a lot of stocks that you've seen and you've discussed. Some we just finished talking about the last couple of days, the need to assess some of these. This is kind of your opportunity now maybe to give the council some feedback on what you thing the top priorities should be in 2015 to maybe 2016.

DR. BARBIERI: I will start with a question here. For 2014, that red snapper benchmark, if I understood you correctly, the center has pointed out that it can handle four assessments a year; and given the magnitude of red snapper, the size of that assessment, the level of complexity; that is taking up two slots in '14?

MR. CARMICHAEL: Partially or somewhat, and then there is also we have the Beaufort folks that work on menhaden. I don't remember if menhaden was an issue in 2014. I should probably know this, but I don't off the top of my head.

DR. VAUGHAN: They're doing the Gulf this year.

MR. CARMICHAEL: Yes, I know they're doing the Gulf this year. I think it was Atlantic next year was part of it, too. I think they would maybe like to get out of being the lead analyst for that assessment, but that hasn't really happened at this point. That is another issue that affects kind of the workload that is available to the South Atlantic. It was kind of the combination of the two; knowing they may be contributing on menhaden. Thanks, Doug, for clarifying that; I thought that was 2014; and the red snapper, yes.

DR. REICHERT: Relative to the schedule of red snapper and red porgy; I assume that means that the current plan is to get that to us for review in April; or is that too early, of 2015, John?

MR. CARMICHAEL: You're talking about the stocks that are done in 2014?

DR. REICHERT: Yes.

MR. CARMICHAEL: I believe I have a document on that.

DR. REICHERT: Yes, but I didn't see what the schedule was for the SSC to see that.

MR. CARMICHAEL: Well, it has got a review workshop in early March 2015; so our target, yes, would be to go to – so where it says report available to council, that is basically the SSC bringing up – and this is Attachment 3. It would be the SSC meeting in April 2015 is the goal. If there aren't any other comments on long-term priorities, I will move into that schedule we were looking at and update you in detail on 2014.

DR. REICHERT: Do you know if there was a discussion about scamp? I know as an SSC we discussed that on various occasions.

MR. CARMICHAEL: There is a lot of discussion about scamp, yes. It is not something that is on this list now. That is why I'm saying if you guys think scamp should be added to this, now would be the time to make that case. Then it will go up to the council and get it back on the list.

DR. BARBIERI: To that point; I guess we just saw what the level of landings for scamp has been for the last several years, but I'm wondering what is the magnitude of those landings. Does it support really a directed fishery at this point in South Atlantic or not? I'm just not familiar with the scamp fishery in the South Atlantic.

MR. COLLIER: The current ABC is set at 492,000 pounds, so that is going to incorporate recreational and commercial fisheries.

DR. BARBIERI: I'm asking this because I wonder – and we may not be able to do this at this meeting, but something for us to think about and discuss with John perhaps for the October meeting; you know, every meeting we seem to have an opportunity to provide input on the SEDAR schedule.

I wonder, having seen some of the things that have happened in the Gulf, whether we would like to provide some comments or suggestions regarding our ability to assess some of those stocks; to try and conduct an actual benchmark assessment or whether some other alternative that is not as time consuming and resource intensive perhaps could be considered; if we can get stock status and information for catch level recommendations.

MR. COLLIER: Well, the tilefish, do we have an index of abundance beyond just the commercial fishery or are we going to be deriving the stock assessment based on the commercial fishery pretty much alone?

MR. CARMICHAEL: Which tilefish?

MR. COLLIER: Tilefish, tilefish; it would be golden tilefish.

MR. CARMICHAEL: There is an assessment now. I believe it has a MARMAP index in it.

DR. REICHERT: No, that's blueline. The 2015 tilefish; that is golden tilefish. Our index was used in the last tilefish assessment. Currently due to budget considerations, we have halted that longline survey as of 2012. Until funding is restored, we don't have additional an fishery-independent index, so that would be based on catches.

DR. BARBIERI: Any other comments or suggestions regarding this proposed SEDAR schedule?

MR. CARMICHAEL: Did you put scamp somewhere?

DR. BARBIERI: No, we did not.

MR. CARMICHAEL: This is how it happens, I guess. If we want scamp on there, tell me a year you want it in and I'll take it to the council.

MR. COLLIER: Could we do it in 2015 as the number four stock? That would be a fourth benchmark, though.

MR. CARMICHAEL: Well, I think if you believe that is where it should be, then that is the recommendation to go to the council. I think we are kind of tentatively looking at four species there. I don't know that we've gotten to the point where we are going to say those four slots can only be benchmarks. I think the discussions have been there is four slots, there is four slots.

Doing updates has given us half a slot or use three-quarters of a slot so far. I think that is something you guys should recommend and maybe not necessarily worry about if they are all listed up there as benchmarks. If you think scamp should be the number four priority in 2015, then that is what we should tell the council.

DR. BUCKEL: Yes, I think for me, I don't know the answers to the questions that Luiz asked, and I think that would help us if maybe some of the fishermen could comment on if scamp are – I think Robert mentioned that for a lot of the groupers the landings are already down because of regulations and the four-month closure.

They are not a targeted grouper but it is something folks catch when they're going after red grouper; and because the quota is reduced and there is four months of closure now, that is taking care of scamp and there is a higher priority to get tilefish done? It would be nice to get some input from some of the folks that spend the time on the water.

MR. HARTIG: Robert's point is that the four-month grouper closure, which is spawning for some species and not for others; and I'm not so sure that scamp is covered under the spawning definition during that time. I know red grouper is not. But it is still an effort limitation that limits the amount of those groupers that can be caught, and that he believes has had an impact on the stock for scamps.

As far as which species is important, I've talked to Marcel about scamp, and I continue to support Marcel's scamp crusade to get that done. I've looked at the fishery-independent data and it's alarming the decline that you see in that; but I still think you have to temper that somewhat with the additional grouper closure we have, the effort limitations we've had in the stock – you all have discussed this at length for other species as well, -- and the MPAs.

I mentioned the cruise reports at an earlier time in the last meeting, and especially this year where the cruise has taken some of the information from fishermen from specific areas and plugged those into their randomized spot generator. This year was phenomenal with the amount of biomass of reef fish species that they actually encountered. It was a significantly different year.

I think it was partially based on the new information that was plugged into their random spot generator. Having said all this, scamp in the MPAs seem to be doing quite well overall. It was the most abundant grouper. Aggregations were seen on several sites of more than 50 individuals. Those types of things seen in the MPA; I mean how in the world do we ever get credit for those remains to be seen.



Just going back to the characterization of percentages in your MPAs, when we went through that exercise, that always bothered me because unless you have 25 percent or more of your area in your MPA, you don't get any credit for the areas you've closed. I would argue that in the southeast that closing small specific sites is more important; or as important, not more but as important as closing some of the larger areas where you get a bigger bang for your buck on species.

This no credit for MPAs; and we're going down the road to broaden this – make more MPAs for speckled hind and Warsaw in particular – that is pretty troubling. Riley's Hump, it is in the Gulf's jurisdiction, but it is right on our border; and Tortugas South, which is the deep part of Riley's, which has Warsaw and speckled hind in there and Warsaw with spawning coloration as well were observed with some of the ROV work.

Some of the areas that we have closed are pretty damned important on an individual basis and could have significant stock-wise implications. The mutton snapper stuff we're seeing now from Riley's – and it is anecdotal, I'm going to tell you, but in college I did my thesis. I worked on a thesis on age and growth of mutton snapper in the seventies.

The difference in the population, in the recruitment we have seen of smaller fish in the last five years in particular, six years; large year classes coming from somewhere, and the anecdotal information points to this big increase at Riley's Hump in particular. Certainly, we're seeing at least in my estimation some significant benefits from a relatively small area.

I haven't wanted this to get lost in this discussion and it has gotten lost. Some of these small areas have been important, significantly important for some of the reef species. That is why we're trying to focus in this new thing and trying at least to get some spawning areas located for speckled hind in particular.

Warsaw we know nothing about spawning, we don't have a clue, but at least in speckled hind we have some animals that were collected with running ripe condition, gravid oocytes. That is where we are trying to focus some of our additional attention to at least try and do that. I know I have gotten way off track to answer your question, Jeff, but I think it was just important to just put that on the record from my perspective, because I hadn't been able to do it earlier.

But, yes, scamp I believe is higher priority than tilefish. I will tell you in tilefish, just to follow up, the uncertainties in that assessment were of such magnitude and the questions about what is going on with golden tilefish, where are these bigger fish coming from, and was it just one big recruitment or two year classes supporting that fishery, and is this episodic; how often does this happen; and how conservative should we be in setting our ABC recommendations or our catch level recommendations for golden tilefish? We took all that into account and set a pretty conservative tilefish number. Having said that, I fish for golden tilefish every year and I go looking in the depths where those little ones are.

I bandit fish so I don't longline fish, so I can hop around and I've looked for those smaller golden tilefish in the depths and areas where I have caught them in the past and have seen some baseline recruitment every year, but nothing that jumped out at me as a giant year class that would have supported the numbers of large cohorts that were in the fishery now.

Having said that, this year, for whatever reason, we saw a tremendous year class enter the fishery, so much so in our area that the fish house actually had to create a new grade in the tilefish grading system of what they called peewees, which were two pounds or less. Never has that been a concern in the fishery where you had to create a new grade; but so many of them were caught by the longline fishery that they had to create the new grade.

We were able to move around so we don't catch that many of them on most days. We are able to move our depths. Once you set your longline in a certain gear of X number of hooks and it happens to be in that area where those small fish are, you are going to have a lot of the production. We are seeing that bigger year class beyond the baseline year class strength this year.

Somehow I'm hoping this was captured in the sampling at least from our area. I know some of it has. But even if it hasn't, we can at least look to the grade statistics to capture this somehow in this fishery. Some of that recruitment concern for me at least in tilefish is ameliorated by what we saw this year. The fishermen are saying, hey, we got a big year class, let's be a little more lenient. I need the scientific opinion on that before we do that. That is the key in that one.

DR. BARBIERI: Ben, to summarize your comments; it is, yes, scamp is a higher priority than tilefish; is that correct?

MR. HARTIG: It is correct because of the fishery-independent decline. Yes, there is a reason to look at tilefish in the future as well, but as a fisherman I don't want to ever get into the situation where we're putting off an assessment and we get into a choke species situation with scamp that could really hamstring the rest of our fisheries, so get the scamp done as quickly as possible, find out where we are and we can move on.

DR. BARBIERI: Absolutely; we look at that list and everything is relevant to be done. It is just a matter, like you're saying, how many can we do within some timetable. We have to prioritize. Otherwise, we might get in some other situation.

MR. HARTIG: But I would just add one thing; two of our major species that we keep hammering on to have assessments, benchmarks or updates, vermilion and black sea bass; neither one of them is overfished and neither one of them is undergoing overfishing any longer. Hopefully, that will take a little bit of the pressure off to allow some of these other stocks that we've neglected to get through the assessment process.

MR. COLLIER: I did have a question for Ben. Seeing that you're getting some very small fish, are you providing those to any scientists to get maybe gonads or something like that? I know age at maturity for tilefish was a question I think in the assessment, wasn't it?

MR. HARTIG: I don't remember specifically; but if that is something we need to do, we can do that this next year. We can provide that information. They are gravid at a really small size; it is amazing. How viable the eggs are from a 2.5 pound tilefish, that is still questionable, but they are spawning at very, very small sizes.

DR. BARBIERI: Yes, we are going to add scamp as a recommendation for perhaps a replacement of tilefish for 2015. We understand the desire to get tilefish done, but we see scamp at this point as a little bit of a higher priority.

MR. CARMICHAEL: Given what we know about vermilion; do you think a vermilion update is necessary in 2015? As you see, we have a bit more that is being asked for in 2015 than we know is going to get done; so now if we move down tilefish, we now have four down there that will be unassigned. How do you feel about sort of priorities within there? Could you rank those four stocks; tilefish, red grouper, vermilion and greater amberjack or could you punt any?

MR. COLLIER: With red grouper, there was a pretty big recruitment at the end; so that one might be of a little bit more concern than vermilion snapper, I think.

DR. REICHERT: I think if I remember correctly, vermilion, wasn't that because when we looked at the assessment, we requested that update in like four years or so? I have a vague recollection of that. I think that may be on the schedule in '15 because we asked for it.

MR. CARMICHAEL: I think you said four or five years, maybe.

DR. BARBIERI: But that is kind of like our standard recommendation now; because for most of the stocks with high uncertainty, we don't want to trust to long-term projections. We want to have those projections refreshed within a reasonable timetable.

MR. CARMICHAEL: Red grouper and greater amberjack would both be older than tilefish, I think at that point – I mean than vermilion, so you maybe want to move those up a little bit, even if age is just a consideration.

DR. YANDLE: Just a quick question; I was trying to think if we've actually established any criteria for how we determine our priorities for what goes on this list. I'm seeing, yes, no, shaking heads.

DR. BARBIERI: Well, I'll defer to John since he is SEDAR staff.

MR. CARMICHAEL: You have not really developed a process by which you would recommend priorities. It has been driven in the past by overfished, overfishing stocks, responding to things that happen in the environment like signs of a good year class. But other than that, no, the SSC has not developed a process. You have talked about it some, and it is something I think you may choose to do at some point in time. It certainly would not hurt.

DR. BARBIERI: But, Tracy, just to supplement or complement that is that schedule is really set by the SEDAR Steering Committee, which includes staff from the Science Centers and SEDAR and the Councils. All we do here is really provide some recommendations to the Steering Committee and to staff for what we see could be different priorities.

DR. YANDLE: Okay thanks, that was clarifying. I was trying to figure out if it would be worthwhile for a group of us, possibly the SSC to get together and help develop some criteria or not, but it sounds like if it is more of an advisory role it is probably not worthwhile.

DR. BARBIERI: Yes, I think we are done with this, Mr. Carmichael, shall we move on to the next action item?

MR. CARMICHAEL: We talked about in 2014. There is an issue raised about red snapper or bringing this up before you. It is really not normal for us to say come to the SSC at this stage and say what kind of models should be done for red snapper. That is not really what we are doing here; but when we were working on the planning of this schedule, a comment was made that perhaps there was some interest or there had been some rumored interest in pursuing red snapper through the stock synthesis model.

The analysts were concerned because that would mean basically they would definitely have to put another person on red snapper. That might mean then perhaps we lose the gag update as well if they have to run BAM, which is how this stock has been assessed before and how pretty much everything in the South Atlantic has been assessed since SEDAR began; to also do a simultaneous run of the stock synthesis model, which is increasing in its usage and being used some in the Gulf stocks as they learn their ways around that model and its configuration.

The question is being asked if stock synthesis is something that anyone here at the SSC feels like you need to request; because if someone at the SSC is behind some of this, we need to know and we need to make plans for it.

DR. BERKSON: I think this is completely inappropriate to have on the SSC agenda. It has never been the practice of the SSC to make any requests regarding model types of an assessment prior to even a data workshop. You pick the appropriate model or models based on data availability, based on the group of data people, assessment people, and stakeholders; everyone working together as part of the SEDAR process, deciding what is most appropriate. Doing it a year in advance without any knowledge of any of these things just seems bizarre and inappropriate to me. That is my comment.

MR. CARMICHAEL: Then your comment is basically the current approach that we would use is appropriate and you would not be one who would request us to do this extra model.

DR. BERKSON: I mean my comment would be I have complete faith in the SEDAR process to handle this appropriately as it has.

MR. CARMICHAEL: I think that settles that. We kind of talked about the future, so let's move on down and let's bring up the SEDAR 38 terms of reference and schedules. SEDAR 38 is going to be benchmark assessment of Gulf of Mexico and South Atlantic king mackerel. If you've been around for a while, you recall it is basically one stock with two migratory units. Boundaries of those migratory units shift over time and space. It is kind of a complicated beast.

It has been done a number of times and there have been a lot of issues. One of the big uncertainties in this assessment is how much mixing goes on between those two stocks within these different geographical and time spaces where the two stocks are mixed up together. You have the terms of reference; there are the default terms of reference for the most part that you have seen for most all of the SEDAR assessments.

We would be looking for any comments on the terms of reference, and then we will be also talking about the schedule and asking if you have any SSC members who want to participate. One thing I wanted to bring your attention to on the terms of reference is the projections from the assessment workshop.

Now we have the P-stars; and when we have a critical value for overfished or overfishing, we can work those into the projections. The default projections don't really get into the P-stars necessarily. They deal with the different possible outcomes and ask for things like  $F$  current and  $F_{msy}$ . We do kind of always need those, of course, because they form some of the boundaries of our management program, but I just wonder if you guys feel that you could provide some P-star guidance perhaps to go along with these projections.

We know that you are going to apply your control rule and come up with the actual P-star value to give your ABCs and that may require that another run be done. If we ask for 20 percent, 30 percent and 40 percent, and you pick 25, we expect that kind of thing to happen, and that is worked into these projections as well. I think the question is should these terms of reference maybe acknowledge P-star and be crafted somewhat so that it asks for some P-star type runs?

DR. BERKSON: Regarding the terms of reference – I'm trying to remember; I have been involved in the mackerel stuff in the past – if the terms of reference the previous time that we looked at mackerel were different than they would have been for other SEDARs, because you had both councils involved; was there anything unique about those terms of reference? I don't remember, which is why I'm asking.

MR. CARMICHAEL: I don't think they were. One of the earlier assessments there were some terms of reference about dealing with the mixing rate and that kind of stuff; but then there was a group that worked on mixing rates. I think that has kind of been hashed out based on the prior assessment that was addressed. These are very similar to what you would see for other stocks.

DR. BARBIERI: I do feel that it would be good to have this hardwired into the process as some standard projections that would incorporate the P-star process; for example, P-star at 50 percent, you know, 0.5 that would give us a projection of OFL. We can do that for whatever long the analysts feel comfortable projecting.

Then as we review and discuss here we, can adjust that timetable. Then what we've seen before is that the folks from the Beaufort Lab already had codes set up within the BAM framework to generate tables that would come out there, even though they are not explicitly described here in the terms of reference; but would generate tables that we could refer to.

There would be like 40 percent and 30 percent and 20 percent and whatever. We would then just have the tables in front of us. Depending on the outcome of our control rule, we can generate a catch level recommendation kind of right there and then. I don't know if we need to be more explicit here.

MR. CARMICHAEL: One thing I've noticed is that we have  $F$  target; and with the way the council has now set ABC equals ACL equals OY;  $F$  target doesn't always mean so much in terms of how it used to be. We would have an  $F$  65 percent, 75 percent, 85 percent of  $F_{msy}$ . Those were the common targets that were evaluated.

If perhaps it wouldn't be better, say, if the stock is overfished to get F-0, F-current, and then the F that gives a 50 percent, 30 percent, and 40 percent chance of rebuilding, maybe; and then if it is, say, not overfishing and not overfished, then you would be looking at the Fs that give you 30, 40, 50 percent chance of overfishing occurring; and to put that in place of the F target.

DR. BARBIERI: I don't disagree; I think that is a good idea. Again, I think that in a way the Beaufort folks have provided a lot of this information regarding projections at different probability levels, probability of success, probability of rebuilding that have been very informative. Having that explicit in the terms of reference; I think might help.

MR. CARMICHAEL: Any other comments on these terms of reference?

MR. COLLIER: I think in the past we had asked for some comments on potential ecosystem-type information to be incorporated into these terms of reference. I can't exactly remember what we were asking for, but I didn't see them in this one.

DR. BARBIERI: Just to that point, Chip, I think it is a matter of perhaps discussing with the Science Center folks about how to accomplish this. I can tell you that for the Gulf gag benchmark assessments underway, they are actually considering some ecosystem models being used to look at species interactions and some of the unintended consequences.

The Center has an Integrated Ecosystem Assessment Group, IEA Group, that I guess Mike Thripa chairs. They have been working with the SEDAR staff and with the Gulf SSC in trying to develop terms of reference and inputs from an ecosystem perspective into the data assessment. It is an example. I know the folks on the west coast and I know the folks up on the northeast have been doing more integration of ecosystem considerations.

I just don't know what the capabilities within the Beaufort Lab are at this time to do that or what specifically we would put there. Again, I mention this because the moment that you set up a term of reference, the reviewers are going to be looking at that and saying, well, this term of reference was not met, so this assessment did not complete or address this one term of reference. We can always put the icing on the cake afterwards. I think it is a good point, but I don't know if at this point we are ready to add that as a term of reference.

MR. CARMICHAEL: All right, then this next part of this document gives you an overview of the schedule. The council will approve the terms of reference in June. Workshops will get started this fall with the data workshop December 9 through 13.

The assessment workshop is in Miami, March 24 through 28, and then a review workshop also in Miami in August 12 to 14 of 2014; and then hopefully will be available to the councils by mid-September 2014, so you guys can look at it here in your October meeting of 2014.

DR. CROSSON: Why is it in some of the documents it says that the review workshop for SEDAR 38 is in June; it just got moved to August? I'm looking at the document that is summary of SEDAR projects schedules; that one has it in June 23 through 27.

MR. CARMICHAEL: I think there was some shuffling around of the review workshop due to some of the other conflicts with stuff down in Miami, and it got moved a little. I believe that is

where it is. Yes, I think the detailed schedule is the one that is most current. It has kind of been up in the air and in flux as we try to juggle some of these things in there. It will go through you; it will go through the Gulf Council., but I think the important thing to folks is getting it to you in October.

The next part of this is who thinks they might be interested in participating. We normally look for some folks to participate and if we can have some SSC members that run through the data in assessment workshops so that you provide some continuity, and then someone who can come in as independent, two or so, to participate on the review workshop. Then if you know of any people that are doing research on king mackerel or scientists that might not know a lot about that fishery that we should have involved at the data workshop, that would be helpful.

DR. REICHERT: Some of my staff, SEAMAP staff collecting data on king; I may be able to identify one or two people for the data workshop.

DR. BARBIERI: Scott and Church have stepped up for SEDAR 38, but I need clarification on whether you want to be for data for assessment or review. Does it make any difference to you? You might want to look at the schedule in terms of your ability.

DR. GRIMES: In my case it would either be the review or the assessment workshop; I think that makes more sense. I'm not currently involved in that stuff. But in the past, especially this stock; structure, boundaries, mixing rates, and there is a lot of good new information on that; I don't think it has ever been very satisfactorily incorporated into the assessment and your management plan.

MR. HARTIG: Luiz, to Church's point – and I'll interject it here – John had said earlier in the TORs that he thought that the mixing stuff was pretty much settled. I don't think that is quite correct. I mean we have at least three new papers, one on otolith microchemistry, two on SHAPE analyses that I don't think were reviewed in 2006.

Our fishermen are putting a lot of weight into some of the characterizations that have come out of those papers. We need to review those and actually make some determination about whether we believe that the SHAPE analysis and the microchemistry; what the results of those really are. That hampered some of the discussions I had with king mackerel fishermen this past fall, the results of one of those papers in particular on SHAPE analyses. I would like to see us review those as a TOR in this assessment if possible.

MR. CARMICHAEL: Make note of that and maybe we'll get something drafted up to put in at the council's level.

DR. BARBIERI: I think the data workshop should have already a lot of good scientific input. I mean usually the state; federal and academic sectors come in and participate in that process very intensively. Preferably we would have SSC members for the assessment and review workshops. We have Scott Crosson stepping up for the assessment workshop and Church and Jim for the review workshop.

MR. CARMICHAEL: This is joint with the Gulf. We don't know who will chair, but an SSC member chairs. Would either of you be interested or both of you be willing to be chair if asked? Church maybe hesitantly so, but Jim would probably be willing to be chair.

DR. BARBIERI: Okay; and we just had Marcel actually step up and volunteer for the assessment.

MR. CARMICHAEL: Julia checked into it and it is August for the review. Okay, those were the items that we had. I think with this we can ask if there is any general comment anybody has about SEDAR or any of these assessments. Otherwise, that is the primary things I had, Luiz.

DR. REICHERT: Is there a data workshop for SEDAR 35; it is not on that schedule. I was just wondering.

(Answer given off the record)

DR. REICHERT: Okay thanks.

MR. HARTIG: Yes and I would be remiss not to mention Dr. Peter Barile's work. He is sitting over there next to Rusty. He has done a significant amount of work with this SHAPE and otolith microchemistry analyses and has put together some working papers for the assessment; adding that TOR will be an important part of that review.

DR. BARBIERI: All right thank you, Ben; that will be really helpful. This is what we had envisioned as our agenda for today, but we have a little bit of extra time and I think it would be helpful for us since everything in that discussion is fresh in our minds to talk a little bit about the ABC Control Rule and the ORCS workshop recommendations and make sure that we have everything straight as far as steps forward regarding the ABC Control Rule; potential modifications to the ABC Control Rule given the results of the ORCS workshop.

Are there any comments, suggestions or additional thoughts regarding the ABC Control Rule? Well, just to get the ball rolling I will add one. It looks like at this point we have a completed application of the ORCS method to some 20 or so stocks, and that application of that and the potential ABC recommendations are going to be evaluated. The procedure and the ABC recommendations are going to be evaluated by the council subsequently.

We still have a number of stocks remember that as part of the ORCS workshop were removed from our original table of catch-only scenarios. Those stocks would have to have some other method applied to them for ABC recommendation or specification. I think that for all of those stocks we have right now in the books as part of the Comprehensive ACL Amendment.

We have ABC specifications that follow the third largest catch, but I don't know if you still have that PowerPoint that I had for the ORCS thing there live, and you should think about our tiers. Our tiers do not really at this point integrate the third largest. Anyway, that is something that we might need to discuss.

MR. CARMICHAEL: Your Attachment 7 is the ABC Control Rule with the last revision of November 2011: Tier 1, assessed; Tier 2, DBS-RA; Tier 3, DC-AC; and Tier 4, catch. Then



you added these addenda in April 2011, which was the decision tree approach for Level 4 stocks, which Level 4 was, catch only. This actually is kind of in your control rule; it is as a way of dealing with Tier 4.

DR. BARBIERI: Right, but in this case, since we have discussed application of the ORCS, going in that order from higher informational content to lowest information content, we would substitute Tier 4 for the ORCS approach, and then we would have to propose a Tier 5 that would be our decision rule. Right now, unless folks have heartburn over this, we would move this decision rule; third largest, 75th percentile to be our Tier 5; and ORCS would become our new Tier 4.

DR. BELCHER: What are we going to use as the distinction between a Tier 4 stock and a Tier 5 stock if they're both catch-only scenarios?

DR. BARBIERI: Reliable catch series.

DR. VAUGHAN: Tier 5's are not reliable.

DR. BARBIERI: Are non-reliable, exactly. In our ORCS, that first workshop thing, this is the way that we justified that we wrote in our report that those stocks did not qualify for ORCS, because they did not have reliable catch series. That is how we would differentiate them.

DR. BELCHER: Yes, I just wanted to make sure that the language was caught up there. That is all I'm saying; if we're going to identify it – because they are both going to have catch; it is just the quantification of which is which.

DR. BARBIERI: Right; and that is a good point, to make sure that we have the ORCS with reliable catch series and anything else would be following the Tier 5.

MR. COLLIER: In that ORCS workshop we decided to go back from 2008 to 2007 based on some of the information Scott provided, which was higher gas prices, the depression or economic downturn, whatever it is; do we want to consider dropping from 2008 to 2007 in this?

DR. REICHERT: I think if we want to be consistent, I think we should do that.

DR. BARBIERI: To me it makes sense that if that time series that we used was good for the application of the ORCS, we have to be consistent with the non-reliable catch stocks. Any concerns with that modification? If not; the modification will stand as suggested. Let me look at the list of action items that we have under this topic:

Recommend modification through the ABC Control Rule; check; recommend ABC values for ORCS, we don't have those values yet, because we are expecting input from the APs and the council before we can actually finalize full application of the method. I think that completes discussion of Item 4. Are there any additional comments or questions for the committee before we adjourn for the day?

MR. CARMICHAEL: I think in addressing this in the report, it would be good to get something in there about timing and what you expect the next steps to be. Do you want to take a draft

ORCS report to the APs? I think they are meeting and they are going to start in like two weeks, maybe three. That doesn't give you maybe a lot of time, but it would be good if you can get it to their upcoming meeting, but you're going to have to get the ORCS stuff wrapped up right quick.

DR. BARBIERI: That is what I am going to try to do. I have a fairly easy week this next week, and I am going to try this weekend – John sent me a good set of notes from what Mike had started and from what he completed – and try to put all that together and see if I can circulate early next week a draft to the group. Robert had already mentioned that they are going to have in two weeks the AP meeting.

MR. CARMICHAEL: The twenty-third, it starts.

DR. BARBIERI: Yes; and that he needed some guidance to proceed with that.

MR. CARMICHAEL: Can you come to that?

DR. BARBIERI: Yes.

MR. CARMICHAEL: Would you want to come?

DR. BARBIERI: Absolutely, yes. I am going to try to have something to you by Monday. If you can have a quick turnaround; I don't think it is going to be long and it is going to be complicated. I think that is just addressing Terms of Reference 3 and 4, and considering all the notes you already have. It is just to eyeball it and make sure that the language there captures what we discussed, and we can have that ready for the AP's briefing book for distribution to them.

MR. CARMICHAEL: Then in June I could envision a report from the SSC and the ORCS group to the council; comments from the AP to the council; and then should we move this recommending ABC values ahead to your October meeting? You know ABC values have to be recommended by the SSC.

DR. BARBIERI: Yes; tentatively I would say, yes. This right now would be something that we would reconsider in October, but, of course, this would be dependent on council input at the June meeting, and whatever direction the council provides at that meeting. Are there any additional points of discussion before we adjourn for the day? If not, I think that we start tomorrow at 8:30, and we are going to start with Agenda Item Number 5.

MR. CARMICHAEL: We're scheduled to start at 9:00.

DR. BARBIERI: We're scheduled to start at nine o'clock. I wouldn't want to disappoint the folks who will be perhaps planning on having that meeting start at 9:00 joining us remotely. Let's plan for nine o'clock tomorrow morning. We start with discussion of the black sea bass update assessment. Thank you and I'll see you in the morning.

**The Scientific and Statistical Committees of the South Atlantic Fishery Management Council reconvened in the Crowne Plaza Hotel, North Charleston, South Carolina, Wednesday**

**morning, April 10, 2013, and was called to order at 9:00 o'clock a.m. by Chairman Luiz Barbieri.**

MS. ANDREWS: For this presentation I'll go over some background for the update. I'll discuss the data sources that were used for the benchmark and then any updates for modifications that were made. I'll go over the assessment methods and the results from our model; how they differed from the benchmark version of the model and then the results.

Our goal for this update was to update the benchmark with new data. The model used before was the Beaufort Assessment Model. That was the model that was used for management. Our goal is to stay true to the format of an update, but to allow for modifications that are intended only to improve the assessment and not to differ from the scientific integrity of the benchmark.

Our stock definition is the same as what was used in the benchmark. The northern boundary for this stock is Cape Hatteras. The southern boundary is the Keys. Our life history input are the same values as for SEDAR 25. The natural mortality was a Lorenzen age-based curve that was scaled for the Hoenig estimate.

For the oldest ages, the thematic growth, length and weight at age did not change; neither did the female maturity at age, the sex transition or the fecundity at age. The discard mortality rates were maintained as well for commercial handline and recreational at 7 percent. Commercial pots differed based on the size of the panel; the mesh, 0.05 for 1.5 inch mesh; and 0.01 for 2 inch mesh.

Here is a summary of the size limit regulations. The one that mattered for the update was that there was a change in minimum size for 2012 in both recreational and commercial fisheries. We have input of landings. This is in numbers. We have our general recreational, our headboat fishery – hopefully, these colors look distinguishable for you, but the recreational is pink, the headboat is a purple color. The trawl is a very minor component. The pot fishery is in yellow and the lines are in orange.

Because of the timing of this update, we had some problems with getting the terminal year, the 2012 estimates for some fishery landings or discards. When those data weren't available for the terminal year, we used the geometric mean of the three preceding years. That was used to approximate the landings. We did this for headboat landings in 2012; and then for MRIP in 2012, but that estimate was later verified using – or that approximation was later verified using the landings that are published by MRIP online.

For our discard mortalities, these colors should be approximately the same. The MRIP is pink, the headboat is teal and then commercial discards are combined; and then orange; this in numbers by year. My computer froze again; can you please take back control. It seems to be the plug fixes it when the computer freezes. If you have a better idea that I can try, let me know.

Okay, the same approximation method was used for discards in the terminal year, the geometric mean of the three preceding years. That was done for both headboat discards and general recreational discards. The composition data; both length and age compositions were updated. General recreational through 2011 gives the length composition; headboat through 2012; the commercial handline through 2012, but they weren't used because age compositions were

available; the same for commercial pot. For age composition, those two commercial fisheries were updated. We have headboat age compositions through 2012 and then our MARMAP chevron traps through 2012.

Our indices of abundance; the same ones obviously were used but with different levels of updates. For our fishery-dependent indices, the only one that was updated at all was headboat at-sea discards. That was only updated for one year, because it wasn't available for 2012 yet. Commercial handline and headboat indices were not updated because of changes in regulations. That would have made the GLM that was used for the last assessment not track abundance well.

For our fishery-independent indices of abundance, our blackfish/snapper trap didn't need to be updated, because it stopped in '87 and our MARMAP chevron trap index was updated through 2012. Here is a plot of all the indices together. In general, there is an upswing in all indices in the last four years.

This is consistent with the benchmark that showed an upswing in all four of these indices in the last two years or one for the headboat. In most cases, we just added two additional years, 2011 and '12, at the end of the time series. This is the method in the benchmark, but there were some exceptions, though. Some time series did not need to be extended; the commercial trawl data or the MARMAP blackfish/snapper trap data. Those just ended before the terminal years, anyway.

For our delta-GLM models that were used for indices – there is another one for discards – they were refit using all relevant data. Our earlier years were also subject to modifications, but the same methods were used to mark. Our discard estimates for the commercial fishery are based on a GLM for discarding rates. Those rates are then scaled by effort to get our total number of discarded fish. That rate changed in the last years of data we think because of – well, we think because of closed seasons and increased rate of discarding.

Those increased rates in the last two years did not feel appropriate for the earlier part of the time series, so we maintained the values that were used in the benchmark for previous years and just appended the 2011 and '12 estimates to what was used. Our fishery-dependent indices were only calculated through 2010 so they were not updated for this update, because recent management measures would make their ability to track the abundance in the fisheries questionable. There were bag limit changes, and mostly it is due to the closures in those fisheries.

Here is an outline of the closures that were in place during the last two years of this update. It was closed most notably in our 2011/12 fishing year and our 2012/13 fishing year for recreational here; and then again for the commercial year. I just didn't figure the 2010/11 fishing year because it was closed then, too, but that is when the season begins is June 1.

Figures on the general recreational fleet were previously based on MRFSS methodology, but here the 2004 through 2012 estimates are based on MRIP methodology; and then the previous years were adjusted to MRIP, so that is a change in the entire data series from the benchmark. Here is a comparison of the MRFSS to MRIP estimates for black seas bass.

This is just for purposes of seeing if that plot can be generated as well. The closed triangle is MRIP and the open circles are the MRFSS. Then the MRIP confidence interval is the dashed

line. It agrees fairly well particularly in the later years. Are there any questions about the data modification or do you want to ask all the questions at the end?

MR. CARMICHAEL: We'll take a second here and see if anybody has any. Any data questions for folks?

DR. DUVAL: Not really a question, more of a comment, Katie. I'm just noting that there was a one-week reopening of the commercial fishery in December of 2010, and I didn't know if you guys accounted for that in the assessment update or not.

MS. ANDREWS: I'm not sure that we'd be able to track those landings. I counted them differently; but they should be included in the landings' stream. I didn't do anything different in the modeling for it, but it should be in the landings' stream. Are there any other questions about data or should I move on?

I'll go over the configuration of the Beaufort Assessment Model, some of the fits and then the results. The assessment years were '78 through 2012. We modeled age 0 through an 11-plus group. Our fleet includes the commercial trawl, commercial line, commercial pot, general recreational and headboat fleet. Our discards were general recreational, headboat and then a commercial combined lines and pots.

Our abundance indices included a commercial line index, headboat landings, headboat discards, MARMAP blackfish/snapper trap and a MARMAP chevron trap index. Selectivity was maintained from the benchmark, our age-specific functions for landings and surveys, and dome-shaped selectivity for discards. These are all constant within blocks of regulations. We did add one additional block for the last two years of discards, and I'll explain that more in a minute.

Our fishing mortality is maintained from SEDAR 25. We have three parameters for each fleet. The spawner-recruit curve is Beverton/Holt with lognormal recruitment deviations, and our spawning potential was based on population fecundity. We used the iterative reweighting method that was used for SEDAR 25 and has been used since for other species as well for an assessment. The indices were up-weighted, which I'll explain more in a minute as well.

The reason for the up-weighting of indices is \_\_\_\_\_ for this assessment. After iteratively reweighting all of the components for SEDAR 25, there were some problems. The \_\_\_\_\_ were found, one of the key indices was not fitted well and there was trouble from the residual patterns in the headboat index. The assessment workshop and the benchmark addressed these problems by increasing all age limit components like component length indices just before they were highly correlated.

This is following the \_\_\_\_\_ statement that indices should be given \_\_\_\_\_. After examining these two plots, the upper one is the index weight shows the mean squared error based on what index weights it was for the four correlated indices. The bottom plot is the weight – what happens to age composition and length composition based on the weight of the indices. You can see the give and take between what index weight you apply and how well your log length percent is behaving as to how negative it is.

They came up with 2.5 as being a balance between giving the indices \_\_\_\_\_ and not losing g \_\_\_\_\_ composition. We maintained that up-weighting of 2.5 for the four indices that were correlated. I did iteratively reweight before I applied the increased weight of the indices, and I wanted to show you what the difference was for the two. The weights for SEDAR 25 benchmark are on the left. What you're looking is CPUE weight, length composition weight and age composition weight.

On your rows or columns are MARMAP, the Beaufort blackfish trap, chevron trap and your headboat landings and discards; your MRIP landings and then the commercial landings for lines and pots. The matrices were repeated over here for the range for the update. In general they are of the same magnitude. There are a few differences.

The headboat landings, for instance, are weighted two times higher for the updates and for the length composition and the age composition. The commercial line length compositions have a weight about half. The commercial line age compositions have a much smaller weight. These are the results for the update after using the same methodology as was applied for the benchmark.

There was only one modification made to the model itself, which is about discard selectivity. Due to the closures in the last two years of this assessment, the discard selectivity had to be adjusted for the recreational and headboat fishery. The new selectivity allowed for older age classes to be captured, because the first season there wasn't just a discard of these younger individuals, there were also the current older individuals. I'll show you what that looks like in a minute.

Here is a plot of the fishing mortality rate by year for each of the fleets and discards combined. Here are our recruits over our MSY. You can see the last two years are below the Rmsy line, but 2010 was above. Then the terminal year, we don't have enough information to figure how different that is to calculate our residual \_\_\_\_\_ six years before that are larger than expected. Here is the spawning stock. Remember it is in population fecundity by year. The green dashed line is at SSBmsy; the purple dashed line is MSST; and you can see the population has just barely gone above the SSBmsy line in a terminal year.

Here is our spawning stock by recruitment. This is the number of age zero fish. Here is the table. Your update assessment report gives you all those values I'm sure you're all interested in, the MSY value, MSST and Fmsy. The \_\_\_\_\_ is 1.03. According to this, the baseline point estimate is it is rebuilt. It is quite a bit above the MSST line. Also Fmsy is 0.659 so it is not experiencing overfishing. These numbers are not that different from the benchmark. The Fmsy was 0.69; the MSY was pretty close to 1.780 here or 1.7 million pounds. I can go over some of these selectivities based on regulation blocks. On the left you have the trawl. The first part of the \_\_\_\_\_ and after the change is five limit. This is for 1999 on and the top one is '78 to 1998. On the right you have commercial pot with the change in size limit. Sorry, this is by age in this selectivity.

This is all for general recreational. This is first time block, second time block, third time block, and fourth time block for the landings; for commercial discards; the first time block, '84 to '98; the second one, '99 to 2008; and then the commercial discard for the benchmark cap had that

component of older age classes mostly because of closed seasons in '09 and 2010, so that was maintained here. This headboat discard and the general recreational discards are the same.

Even though it says headboat on the top, they are modeled the same way, or equivalent, I should say. For the first time lapse, '78 to '98; '99 to 2006, 2007 to 2010; then that increase in the capture of older individuals due to closed seasons for the recreational sector shown here in the final two years of the selectivity. I already showed you that. \_\_\_\_\_ the weighted selectivities, which is all of the selectivities the model combined and weighted and by landings. Are there any questions or should I go into the uncertainty analysis?

DR. BARBIERI: Any questions for Katie? No questions for Katie; move ahead.

MS. ANDREWS: The same type of uncertainty amount that was done for the benchmark was applied here with a few changes with your Monte Carlo/bootstrap analysis; 3,500 trials were attempted; most were routine. The bootstrap part this follows with a lognormal resident component for landings and indices. For a payback with bootstrap for the original data was \_\_\_\_\_ procedure; and then multinomial like this had components for the likely age plot, where we resampled the number of fish and assigned them to \_\_\_\_\_ for the probability that they are equal to those from the original data.

The Monte Carlo part, there is one additional part here, the natural mortality. Discard mortality and the weighted indices are identical to what was used for the benchmark, but a different tier I should have highlighted is the terminal year there was approximated landings and discards. It is because that was so uncertain, we considered that as an empty B analysis by drawing from a truncated normal distribution. The mean of that normal is equal to the geometric way that we calculated and used as our approximations for the unavailable data, where the standard deviation was calculated from a \_\_\_\_\_ geometric mean of the three previous years for those time series, and that was compared to the actual value in the time series where we have those available.

That allowed us to characterize the uncertainty of making those approximations. Empirical results from the \_\_\_\_\_ this is our distribution of  $F_{msy}$ . The  $SSB_{msy}$  calculation of fecundity is the top right pane. The bottom left if the  $MSY$ , 1,000 pounds, and the bottom right is the number of discards in  $MSY$ . There is our base plot.  $F$  over  $F_{msy}$  for the last two years is averaged. That is on the X axis and the Y axis is the  $SSB$  in and the terminal year of  $F_{msy}$ .

You see the crowd of points from all the different MCB runs, and the green cross is meant to indicate the variability in that crowd of points. The origin of that cross there is the population estimates from the base run. Viewed a different way, the  $SSB_{msy}$  here is the density for that. It shows that approximately 32 percent are not yet rebuilt or are less than one, but the  $F$  over  $F_{msy}$  seems more certain \_\_\_\_\_ is approximately 7 percent still indicate overfishing. Here is another way to look at it.

Here is  $SSB$  over  $MSST$  by year, and this shows that all of the confidence intervals overruns are above the one month. The  $SSB$  over  $SSB_{msy}$  shows that there is still uncertainty as to whether this stock is rebuilt in our MCB runs, although the point estimate is above the line.  $F$  over  $F_{msy}$  shows that there is – according to the confidence interval, there is overfishing occurring in the terminal year.

DR. BARBIERI: Any questions for Katie so far? Yes, John had a question, Katie.

MR. CARMICHAEL: Katie, I had one question about the recruitment estimates and it showed that the last two years were a little off pattern from the others. I just wondered how much of that is – obviously, it could be the year effect, but have you looked into whether or not there is some retrospective; because it looked like at the selectivity – you know, the fish recruit to the fishery around ages three or four, so it wouldn't be unusual to do a poor job of estimating the couple of terminal years of recruitment at ages prior to the age of recruitment to the fishery.

MS. ANDREWS: It wasn't possible for me to do true retrospective for this update, because I didn't have all the data series complete through 2012, the indices. Some of those just go through 2010. When I pulled off one year, it matched this \_\_\_\_\_ but it is not a permanent flag when I'm running one for 2010. A true retrospective wasn't possible for this update. I wasn't able to investigate that further.

MR. CARMICHAEL: Okay, I might just look back at the last assessment and see if it had any kind of similar tendency. That would give us some idea if maybe it is doing that. It certainly wouldn't be unexpected.

DR. BARBIERI: Katie, I have a quick question as well. Going back to the Monte Carlo bootstrap; it sounded from your explanation that the uncertainty in natural mortality is being more fully accounted for in these MCB runs, or the process that you guys set up than it had been in the past. Is that just my impression or the configuration of the MCB is actually capturing that uncertainty in natural mortality more fully now?

MS. ANDREWS: Well, I maintain all this \_\_\_\_\_ for natural mortality from the benchmark. I didn't do it any more fully than was done for the benchmark. I think SEDAR 25, I think – correct me in this room if I'm wrong, but that seemed to be the first time when that many components were all put in the MCB and then we carried that through that to other assessments, separate, but this update is not different from the SEDAR 25 benchmark for that component.

DR. BARBIERI: No other questions, Katie; go ahead.

MS. ANDREWS: I'm sure there will be questions about this section. Here are the P-star projections. Our effort here was to characterize uncertainty from our Monte Carlo bootstrap runs. That uncertainty is modeled in initial abundance at age; the spawner-recruit process; natural mortality; discard mortality plus \_\_\_\_\_ for recruitment deviation. Uncertainty in Fmsy is shown by either a distribution from our Monte Carlo bootstrap runs. New management was assumed to in 2013, which shows consistent with the – I don't know if it was written in the terms of reference or the management history. No management uncertainty was modeled, but that can be done if requested. Our total rules, because there was no implementation, it is assumed that the total rule over equal to ABC. Our probabilities of overfishing that we modeled were 0.4 and 0.5.

You have appendix D of the update report. The top table is for P-stars of 0.4; the bottom table is for P-stars of 0.5. For reference, the Fmsy point estimates for the base run was 0.61, and our MSY point estimate from the base run was 1.7 million pounds. We have an F that is higher and



an ABC that is higher. Our discards are less than  $F_{msy}$ , however, and our probability of SSB being greater than  $SSB_{msy}$  are staying rebuilt goes down as these ABCs are implemented. We'll talk about this more.

Why are the projections showing  $F$  greater than  $F_{msy}$  and an ABC that is greater than MSY? The first median of  $F_{msy}$  in our MCB analysis is 0.71, which is consistent with our P-star analysis of 0.5, but the point estimate for the base run is 0.61. Because our uncertainty around  $F_{msy}$  that we use for P-start is from our MCB analysis and since the median of that is 0.71; that matches with our P-star of 0.5 estimate of what  $F$  should be of 0.71.

The large 2010 year class; – it is available to the fisheries starting 2013, so it was age zero in 2010, reached that age 3 in 2013 was just the first year for the large contribution to landings by age. This column is by age and this zero contributions that are contributions for \_\_\_\_\_ for age zeros, ones, twos and threes; and this is calculated using equilibrium solutions at  $F_{msy}$ . Age three are the largest contributors to landings. Age four is at the maximum age highest or the next highest.

Those are the three years that our P-star analysis covers so that is what is happening with that large 2010 year class. Our ages threes, fours and fives can be added to this year in 2013, '14 and '15. Here is the plot of our natural log of abundance by age. The filled-in line is MSY equal or \_\_\_\_\_ circle. This open circle and dashed line is our 2012 estimates here; and then just the gross MSY \_\_\_\_\_ for age twos in 2012.

Now these are sex changing so they are transitioning to male after age 4, so that is why is says diverging from \_\_\_\_\_ condition. The most important thing to note here is the fact that the two year olds are larger than MSY equilibrium. By going through this discussion last July, we're seeing these things because it is a difficult process to grasp and it is certainly a difficult concept for the SSC to advise the council on whether ABC should be based on the numbers that come out of this analysis, but those are the explanations that we have. Does anybody have anything more about that? Okay, that is what I have for you. Are there any questions?

DR. BARBIERI: Thank you, Katie. We are going to open the discussion now for questions or comments from the committee for Katie. No comments or questions for Katie?

DR. BUCKEL: Katie, I had a question about the numbers of discards in the last couple years. I was expecting to see those go up relative to the earlier years in the 2000s given all the regulations that kicked in. That didn't take place, and I guess I was trying to figure out what could be happening there. I guess the commercial effort was just less and so there is less discarding and that made up for what I would have expected a big increase in MRIP discards.

MS. ANDREWS: Okay, so you are saying that in 2011 and '12 you expect to see total discard mortality to increase particularly for MRIP?

DR. BUCKEL: Yes.

MS. ANDREWS: I'm not really sure why that would be happening besides the fact that effort might have declined. The discards are pretty sufficient for headboat and commercial – well, actually commercial is a little larger.

DR. BUCKEL: Yes, I guess I would have maybe expected it with headboat, too. I wasn't sure what was – I didn't follow it completely. Is the GLM approach that you used for the last couple years – I know there was an issue with data for some of the time series; I'm not sure if that was an issue here. I'm just curious about what was happening there, but, yes, effort could explain it.

MS. ANDREWS: Yes, the GMO issue is for the commercial; that little orange sliver component where we may think that the discarding rate through this time period would reflect that that should make the – that is probably why these are larger than the two years previous. I could look more as to how the effort changed with this, but I don't have an explanation for that offhand.

DR. ERRIGO: Well, it was my understanding that the number of discards for MRIP and headboat in the final year of this assessment is simply the geometric mean from the past three years, which would include higher discards perhaps from 2011 but the lower discards from 2010 and 2009. You can correct me if I'm wrong, but that is what I thought I read there.

MS. ANDREWS: Yes; that is right. I'm not sure if the 2011 was large enough to impact that or to counteract this lower 2009, but, yes, that is definitely part of it.

DR. DUVAL: Katie, I was just curious. I read that not all the data were received by the data deadline of January 11, and I was just wondering what was missing, what was outstanding, just so that we can avoid that sort of thing in the future?

MS. ANDREWS: We had trouble getting the discard estimates; those were about a week late. Then we had trouble getting our ages for age composition data together. That is a great question how to avoid that problem in the future. What seemed to be happening was that there were a number of assessments happening simultaneously that put tremendous pressure on the data providers. The timing was unfortunate, too, because the data deadline was January 11, 2013, for 2012 complete data; which is asking a lot. Having it get there late is one issue; having the timing issues is another issue so those combined created a number of problems for this assessment.

DR. DUVAL: Yes, I guess in terms of the discards, but the seasons were closed on the recreational side since September.

MS. ANDREWS: It's not always the timing of when the data are available. That is why it was the two components of the data provider, having the time to do the query or run the models that they have to run for my species versus other species and the rest of their job. I don't know how to speed that up or help them get to my update any faster than they got the SEDAR 32 data. Are they complete yet for SEDAR 32 data? Yes, we have an ongoing assessment now, but they don't have all their data either. It is a big problem.

DR. BUCKEL: Katie, again back to this issue of the number of discards or discard mortalities for 2012 and 2011 – well, 2012 since that is a complete estimate from the three previous years; if that was much higher, do you have a sense of how that would affect some of the status indicators? I guess put in other ways, how sensitive would the model be to a spike there – when you get the data in if there was a big spike in 2012 discard mortalities?

MS. ANDREWS: I didn't do a sensitivity list of inflated or artificially inflated 2012 number of discards, because I didn't have any idea of how much of an underestimate it was. What we did was improve the effort GIICB analysis to allow for variability around that terminal estimate. Some of those STB runs include a larger \_\_\_\_\_. That was what we could do that would not be too arbitrary as far as including the uncertainty. Just one spike in MRIP discards, I didn't investigate that. We just did it all in MCB runs.

Kyle brought up a good point. It is a very small discard mortality rate for all of these fleets; 1 percent and 5 percent and 7 percent; so a very large number of discards that could be modeled but not result in a large number of discards that went through the model, because of that really small percentage that had actually died.

DR. BARBIERI: Katie, regarding the P-star projections; I can understand completely what you explained; and it made perfect sense to me and made it easier to understand why it happened. I think I've seen it before. Once or twice this happened from a biomass perspective, from an increased recruitment expected, increased recruitment into the future; but I'm having trouble really reconciling what we are trying to do here from an ABC recommendation – you know, from that fishing mortality perspective.

In reconciling the P-star projections with the stock status determination from that exploitation perspective; I know this would be in a way artificially manipulating the probability density function, but could we set the fishing mortality rate to be equal to the point estimate that came out of the deterministic value that was used for the exploitation determination ratio?

MS. ANDREWS: For a P-start analysis or just for a stochastic projection with the same set; because we could do that for a stochastic projection with a \_\_\_\_\_, but the P-star is not to calculate that estimate; not the other way around.

DR. BARBIERI: I am trying to find a way for us to get out of this little conundrum that we found ourselves, because –

MR. CARMICHAEL: I think the issue, as I see it, is you have an estimate of  $F_{msy}$  as a point estimate from the base run. Then you have the P-stars with the MCB analysis, which includes a lot of the uncertainty. As she explained, it is the difference between the point estimate and where all those outcomes fall. In a way, I think it is sort of a philosophical argument that the SSC has to have with the council in considering the risk implications of not in this stock, because we have the  $F_{msy}$ , we have the SSB over MSST; but when we deal with rebuilding plans in the future in determining when a stock is rebuilt; should it be based on the point estimates from a base run, or should it be based on something that incorporates more of that uncertainty.

I think in this case Katie showed that like 32 percent of the outcomes gave a biomass that was still below  $B_{msy}$ , so that means you had more than 50 percent that showed the stock recovered, so that is obviously a very good outcome. Even if you went with that type of approach, you would still say clearly you were far from overfishing and you had succeeded in the rebuilding even by, say, a 50 percent of outcomes or something.

But that is a case where the council could decide to be more conservative and maybe say we want 60 or 70 percent of the outcomes. But in terms of us giving advice now, I think the next

step is maybe those P-star runs give you the information you need if you don't focus on overfishing by looking at the F you get in the year and the point estimate of Fmsy, but you focus on overfishing by looking at an OFL defined as the 50 percent P-star run; and some ABC assigned based on a lower probability of overfishing occurring in P-star run.

The yield from the 50 percent runs in a projection table could be the overfishing level; and as long as the harvest is below that, you are not overfishing. Then the ABC would be recommended from whatever P-star you guys choose. Then you also have some other alternatives, and the council has taken this path in other times, of using like those projections of equilibrium yield at other mortality rate, such as the 75 percent of Fmsy that in the past was sort of our OY that would have been considered so that would give a stable landings' level for the council to consider.

I think there is a way to take this information and run ahead with it and still be true to the OFL defining overfishing as a poundage basis. I think we will be in trouble if we put too much on comparing the P-star Fs and that point estimate F from the base run for Fmsy.

DR. BARBIERI: That would get it resolved. I am just thinking about the recommendations that come out of this committee we put before the council and how this would be potentially interpreted afterwards. I want to make sure that this was fully discussed and clearly documented so we have a record of how we are handling this process for the ABC recommendation.

MR. CARMICHAEL: Katie, speak up if I said anything there that is not technically accurate.

DR. WILLIAMS: I will chime in on this because in a sense the SSC is going to have to make a decision here because what we're blending here is deterministic runs and probabilistic outcomes, and they don't match up. As we have seen many times, the median doesn't always equal the point estimate from a base run, and I would expect that is going to be the normal case.

Because of that, you're going to run into inconsistency from mixing and matching benchmark definitions and the thresholds of overfishing or overfished definitions that are based on a base run versus or based on a median from a MCB of a probabilistic outcome. I think if I thought this through thoroughly that you have to choose one or the other. You cannot mix and match because then you're going to get yourself really tied in a knot.

If you start defining your OFL as 50 percent probability, that is fine, but then you also need to start defining your stock statuses and other things based on that as well. It is something that the SSC definitely ought to think about, consider, discuss, and I drop that bomb in your lap and let you guys take it from here.

MR. CARMICHAEL: In following up on that, so then I guess it comes down to, say, Fmsy – Katie, I think you presented the probabilistic outcome being like 0.71 and the point estimate was 0.61, so that is one of the questions for the SSC. The same would apply to what is the absolute MSST.

DR. BARBIERI: Are there comments from the committee? We're going to have to get this issue resolved.

DR. BUCKEL: I have a comment from earlier. The recruitment issues in the model; I don't know if we want to talk about that now since we're already talking about what is Fmsy or how to move forward there. I think it does have bearing for I guess – Katie, correct me if I'm wrong, you mentioned the reason you're seeing in the projections the large increase in ABC and it is due to the 2010 recruitment moving through. In 2013 you mentioned that they are going to be three year olds, but there is also this uncertainty about the 2010 estimate of recruitment.

In the text of the update assessment, you mentioned that one of the big indicators of that good recruitment from the MARMAP/SEFIS trap data, but then the sentence after that said something about that the age composition from that same survey didn't support that necessarily. I just want to I guess get your thoughts on how solid that 2010 spike in recruitment is or going back to John mentioned that issue with maybe some retrospective bias; or I guess just really make sure that 2010 estimate of recruitment is believable before we move forward given its importance on the population in the future and how much could be caught.

MS. ANDREWS: Yes, we thought about that quite a bit because there isn't consistent support for all of the age compositions and we do have a limited number I think we have estimated for that MARMAP chevron trap survey in support of that increase for that large recruitment. (Rest of answer could not be transcribed because of the quality of the recording.)

DR. BARBIERI: Are there any other questions or comments for Katie or perhaps any other requests from the committee in terms of what could be outputs to form our recommendations to the council? Katie, could you put up on the screen the table that you had with the P-star projections for the 0.4 and 0.5. I wonder if it wouldn't helpful for the council to have at some point some projections at fixed catch levels; so if they decide to handle this as a stable catch level, they would have that option.

MS. ANDREWS: They would be options to do projections at fixed catch; is that what you asked?

DR. BARBIERI: Well, actually, yes, I'm just kind of putting this here more for discussion for the committee in terms of what they would like to see in additional projections or if what we have there is everything that we need for going forward with our ABC recommendation. That's a good point; let's go ahead and go through the P-star first. Mike, you had a question?

DR. ERRIGO: I just had a quick question for Katie. The column that says probability that SSB is greater than SSBmsy; is that the SSBmsy estimate from the base run or is that the median SSBmsy from the Monte Carlo bootstrapping?

MS. ANDREWS: Estimation of the base run.

MR. CARMICHAEL: Okay, I think, Katie, we might be done with the general looking, so we will take control back from you, but hang around in case we have some more questions. Okay, Luiz, here are the control rule tiers, so recall the last time it came out like a 12.5 percent adjustment from the previous assessment, just for reference.

DR. BARBIERI: Going through the tiers here; Tier 1, assessment information; quantitative assessment provides estimates of exploitation and biomass; includes MSY-derived benchmark,

right, instead of a proxy, so we go with Tier 1 in that dimension. Uncertainty characterization; complete, high, medium low or none. Complete would be uncertainty in both assessment inputs and environmental conditions are included. We don't think that is the case in this case.

For high; uncertainty characterization reflects more than just uncertainty in future recruitment. Medium; uncertainties are addressed via statistical techniques and sensitivities, but full uncertainty is not carried forward in projections. Low and none are definitely not the case. Personally I would say that this is a high uncertainty characterization assessment. Does anybody disagree with that? If not, we have a 2.5 percent value from Tier 2 in designation.

For stock status; I guess that easy to see, neither overfished nor overfishing, so that would be Tier 1 in Dimension 3 with no penalty. Then scrolling down to our fourth tier, productivity and susceptibility risk analysis – you have a question, Carolyn.

DR. BELCHER: I just with looking at the value for the overfished; how is we're not in close proximity to the benchmark.

DR. BARBIERI: Yes, I'm sorry, neither overfished nor overfishing but the stock may be in close proximity to the benchmark values; it definitely seemed to be the case from a biomass perspective that it was right over the line. Would everybody be comfortable switching that to Tier 2 in Dimension 3? Thank you, Carolyn; that is a good catch. Then productivity and susceptibility for Dimension 4; how would we characterize the stock as low risk, medium risk or high risk? I think the last time we –

DR. BELCHER: We can look at the control rule because that is actually in that table because that wouldn't have changed. I just can't recall right off the top of my head; 5 percent.

DR. BARBIERI: My recollection is it was a Tier 2, medium risk, moderate productivity stock; 10 percent. That is pretty much what we had the last time, right, was the 0.4? We have a P-star of 0.4, which makes things a lot easier in terms of the projections that Katie has already put together. Now it is a matter of us discussing what we have in terms of the P-star projections. I believe we're supposed to make a formal statement regarding what we're going to be calling the OFL, which should be the projections at a P-star of 0.5?

I don't know if we have to formally, but I think it would be good to have that on the record as the committee formally accepting – as an update, it does not go through the CIE process – that the committee formally accepts this assessment as representing best available science and that the assessment is appropriate for generating management advice. Are there any concerns from the committee regarding the assessment?

Seeing none; we will consider that the SSC has accepted this assessment as representing best available science and appropriate for providing management advice to the council. So now in terms of providing fishing level recommendations that are consistent with our ABC Control Rule; our OFL projection is at 0.5, and then we're going to have the ABC projections at the P-star of 0.4. Comment on assessment uncertainties: I think we have already discussed this –

MR. CARMICHAEL: I think it would be good for the SSC to fill out the values for this table because it will force the discussion that I had mentioned and Erik reiterated about the

probabilistic versus the deterministic. We need to tell the council overfished and overfishing; what is the evaluation, it is not overfished, it is not overfishing, but how are you going to provide the value? You have the 1.03 on the deterministic.

You have 70 percent of the runs I guess on the probabilistic being above that deterministic value. Somewhere in there maybe is a way to answer this question and maybe use the deterministic for there and acknowledge you're mixing some apples and oranges between that and the year-to-year OLF versus ABC. I don't know, but I think having the discussion here and filling in this table will help reduce confusion down the road.

DR. BARBIERI: Right; good point, so let's go ahead with that. Mike or John, can you put up there – I mean, we're going to have that table that we're going to fill on the left-hand side and then on the right-hand side it would be nice to have the Table 17 from the assessment.

DR, BERKSON: Erik, are you still on?

DR. WILLIAMS: Yes, I am.

DR. BERKSON: In this discussion of stochastic versus deterministic in your comments about all or nothing, which made perfect sense, I'm just wondering what your take is on the choice. I know I'm putting you on the spot, but you're used to it. You all are the ones most familiar with the assessment and the techniques that you're using and the inferences that can be drawn from the assessments. I'm not asking for final judgment, obviously, that the SSC has to adopt, but even if you gave us the pluses and minuses of the two approaches, that would be really helpful.

DR. WILLIAMS: I think the big plus for going with the probabilistic approach is that we do take considerable effort and time in characterizing that uncertainty and making sure we put in appropriate sources of uncertainty and distributions about those sources of uncertainty so that in the end I think that the probabilistic results more accurately reflect our state of knowledge than picking out a single-based run because single-based runs have the problem of you're forcing a lot of decisions that we know are not correct, but we just don't know which way they're potentially biased or how uncertain they are; whereas, the probabilistic approach encompasses all of that; and so in a sense that is the better result.

Now, the question of what to do with that, whether to go with median or something like that is kind of still up for debate. Of course, the other problem that comes into play with when we go into probabilistic stuff is computation time supposed to go through the roof, so our ability to quickly turn around projection analyses and P-star analyses becomes increasingly difficult. Just so everybody knows, for instance, these P-star analysis runs took over two days of computing time, and that is on a fairly new fast computer, because there is a lot of computation involved when you go to these thousands of runs that are being iterated over multiple times. I don't know if that really answered your question, but that is my take on it.

DR. BERKSON: That did a great job; thank you.

MR. CARMICHAEL: Erik, maybe a way of getting this in; do you think it would be fair, say, for saying the value of the rebuilding determination, if the SSC were to say the point estimate is 1.03 and 70-some percent of the probabilistic runs indicated SSB was greater than SSBmsy?

DR. WILLIAMS: Yes, that is the way to present both results and then how the council chooses to use that is up to them. I guess I haven't thought it all the way through. What do with if we presented, say, a base run situation that was the same here; so 1.03 was the base run indicating it had just exceeded MSY, but then the probabilistic said 60 percent of the runs were below that; what would be the interpretation, then?

MR. CARMICHAEL: Yes, I think that is kind of the quandary, and that is why I think I kind of said to Luiz I think there is bit of a philosophical discussion that we need to have to make sure going into these things in advance we already decide what the ground rules are with some communication from the council about how to account for that uncertainty.

DR. WILLIAMS: Yes, I was cautioning to be careful. I think in this case we're all okay because the probabilistic runs as well as the deterministic run are all showing a favorable outcome, but I can quickly envision a situation where that might not be the case, and so then we're get ourselves into a conundrum if we're not careful about the precedence that you set with how we're handling these things.

DR. BARBIERI: I agree, Erik, but you have to think about this issue of the consistency between which one we're using for the stock status determination and how we're going to handle why the projections – or how we're going to handle that uncertainty in that assessment. Because here, to some extent – and I heard you say, no, let's not mix the two, and I agree with that, but the P-star projections do have a probability of SSB being greater than SSB<sub>msy</sub>, and the SSB<sub>msy</sub> is actually coming out of the deterministic run, right?

DR. WILLIAMS: Yes, but we don't have the equivalent for that with the Fs; so if we were to recompute that same metric with the deterministic F<sub>msy</sub>, what you would see is that then those P-stars wouldn't actually be at 40 percent. They would be at something else.

DR. SHERTZER: But if you're at 40 percent, then the F would be wrong, I think.

DR. WILLIAMS: Yes, the F would be lower if we actually computed them with the deterministic F<sub>msy</sub> as the denominator of that. If I could chime in, that is a case where that SSB<sub>msy</sub> statistic in that table is mixing the deterministic run and the F<sub>msy</sub> statistic is not using the deterministic run, so we probably even shouldn't have put that in the table like that, because we're mixing and matching deterministic results with probabilistic results.

DR. BERKSON: Another comment for everybody and for Erik; my instinct is to go with the probabilistic approach because it incorporates the uncertainty as well. My concern about that – and I'm thinking out loud, which, Erik, you know is always dangerous. My concern is that we never know fully how to incorporate uncertainty by definition. In some cases I can picture our knowledge of uncertainty being so incomplete in some cases that it would affect that outcome and we might actually be better off with a deterministic approach. Do you see what I'm getting at?

DR. WILLIAMS: Yes, you're talking about the unknown unknowns in a sense, and we're not accounting for the unknown unknowns. Yes, you hit on a good point. My thinking on this is that we know enough about the uncertainty that we're getting at least to what I would call a good



first order approximation. Now, when we get to that secondary or tertiary; you can spend a lot of effort to get those additional sources of uncertainty, but I think in general we're getting a good first order approximation.

DR. BARBIERI: Right, Erik, and to that point, actually, yes, the stochastic values are not really accounting for all the uncertainty and not the unknown unknowns, but the deterministic is not even accounting for the known unknowns.

DR. WILLIAMS: Right.

DR. BARBIERI: Right; so in that sense I would say that shows that really the stochastic is providing a more realistic picture than what we get making those choices for what would be considered the best run to be the base run.

DR. WILLIAMS: The one thing it does lead to, though, is that we probably should pay a little more attention than we have. I'm not saying that what we've done so far is incorrect in any way, but I think certainly more attention could be applied to setting up the uncertainties that go into the MCB analysis. I think like, for instance, natural mortality, we very ad hoc just choose equal sort of bounds on that, and maybe we should actually be more careful about considering possible asymmetrical distributions about some of these uncertainties and applying that.

DR. BERKSON: And that is one of my big concerns; we are making assumptions about the uncertainty that we're putting into the uncertainty analysis and we're far from certain about those assumptions, and they're going to impact the distributions. If we're now going to take the median from those distributions or some measure of centeredness from those distributions, that is going to be greatly impacted by the decisions of the distributions we input into the uncertainty analysis; so how much better is it from our best guess at that point?

DR. SHERTZER: That is all true, Jim, but we're already there with the P-star analysis.

DR. BERKSON: Yes.

DR. BARBIERI: Okay, so here is a suggestion to move forward. No, we don't want to mix the deterministic and the stochastic determinations here; but the reality is we have there in Table 17 a table that presents the – well, just some idea – presents the stock status determination that is consistent with the way that we have been doing this. Traditionally, we have used the point estimate that comes out of the assessment for the stock status determination, and we used the P-star analysis really just for the projections.

In this situation my suggestion would be – I would like to hear the committee's comments and thoughts on this – would be that we would use a procedure that is consistent to what we have done in the past and use the stock status determination values out of this Table 17 but acknowledge that the P-star process is meant to be evaluating the stochasticity in the OFL or MSY estimate, so we make ABC recommendations in accordance to what the P-star projections that are already made came out to be.

Now, we can inform – and we have to some extent already discussed this here, but we can better inform the council that these deterministic values for stock status determination are deterministic

and that there is some uncertainty around that value that the projections take into account. They can look all the different options and make their choices accordingly. This is just a suggestion for the committee to think about, and I would like to hear your thoughts.

MR. CARMICHAEL: And if I could direct you to the screen as a potential strawman of maybe putting two columns in there where you can give the deterministic that we're used to and accustomed to, which is probably good in an update, and then adding a probabilistic outcome as well, and then we can work down through this and fill it out.

DR. BARBIERI: And to that point, I remember Ben yesterday at some point during the meeting where we were talking about stock status determination and probabilistic outcomes, and he said it would be very helpful for the council to actually have a better idea in terms of stock status about the uncertainty associated with those outcomes. This way we could inform you about that uncertainty, but perhaps stay true to the protocol at this point; you know, the formal protocol calls for and is consistent with our previous actions. Jim.

DR. BERKSON: Well, that is one path. If we feel like the stochastic method is more appropriate or the results from the stochastic runs are more appropriate, what we could do is present the reference points based on the medians from the stochastic runs in a table similar to the table we have used in the past and then produce the kind of table that John is producing on the screen, as well, as an example of how this would have turned out if we had used the previous method. Whenever you do a new method, you also want to show the older method for comparison. If we were going to recommend going with the stochastic, that is what I would recommend.

DR. BARBIERI: Are there any thoughts on Jim's suggestion? Jim, I hate to keep disagreeing with you because more often than not we do agree, but I'm having to think here about procedure and protocol, and I really don't want to put the council and the committee in a situation where – I mean, here science and management and policy intersect, and I think that our decisions here would be evaluated in terms of legal standing and in terms of precedence, because we are coming up with stock status determination in a consistency with the processes that we have used in the past. I would prefer to have the table include both the deterministic and the probabilistic values.

We explain to the council that the deterministic values do not capture that uncertainty, and we can even discuss either at the June or the December meeting – and our council liaison may want to chime in – about this process and how they want us to present to them – the assessment already includes all of the scientific information – is simply a way that we present it to them in a format that best informs their management decisions.

DR. BERKSON: Yes, but the job of the SSC is to identify the best scientific information available. If it is the best scientific information – and I'm not saying it is; this is what we need to discuss – if that comes from the stochastic runs, and we have decided that, rather than from the base case, that would be what would need to be presented if we decide that at this meeting or a subsequent meeting.

That is not a policy decision; that is not a decision for the council as to what is the best scientific information available. Once we decide that, it would be great to get their input like we always

ask for as to the best way to present our results, but it is our job to determine whether the reference points come from discrete or stochastic runs.

DR. DUVAL: I think in light of what Erik has said that there may be an increasing number of situations like this in the future with other assessments where we you have some inconsistency or disagreement with the outputs of the probabilistic runs versus the deterministic runs – and Jim is correct; this is your job to decide what is the best available science.

Understanding that what you have consistently done in the past is taking the point estimates from the base run, it seems to me it is worthy of the committee's time to have perhaps a broader discussion about whether or not you want to change the method that you use down the road to provide this information, if you want to continue to go through that – you know, if you feel that from here on out perhaps those probabilistic values are better and more defensible in terms of methodology. This is coming from someone who knows nothing about that.

DR. BELCHER: To me, right, wrong or indifferent, the other day when I was asked in house about the results of this assessment, I basically gave the deterministic/[probabilistic when I talked to our representative about it; and the fact that the number they're looking at is that it is not overfished, so that is the 1.03.

But in looking at the probabilistic approach and seeing the scattered data points, I said but that is not something that – given there is still sizable amount of data that is in that not-so-good zone, I don't know that my advice to you would be that this is all of a sudden now we can release a lot of things.

But then looking at Figure 36, which is a probability density distribution, then you actually look and see here F value is pretty much right on the mode value for that distribution; and when you look at your SSBmsy, you're actually compared to the mode, you're above it; so in that situation to me there is more evidence in looking at the two approaches and not necessarily saying one is exclusive of the other, but using that information to help inform it. Obviously, it is identifying a bias. The deterministic is biasing the SSB high; so the probabilistic would actually shift if lower.

DR. BARBIERI: I think these are good points that are generating good discussion, but I think for what we implicitly would be doing by going with the stock status determination based on the probabilistic run is that we're actually not accepting the deterministic run as represents the best available science. I mean, we are not accepting that as the base run of the assessment; that we thought – you know, of the whole envelope of plausible runs, that one we don't think best represents reality and we picked another one.

I think we can discuss that, but in this case I'm still willing – given all the choices that were made, I'm still willing to go with the base run, just my own personal preference, but inform the council about the uncertainty in that estimate. Right now we have basically two sets of suggestions here. Jim, can you clarify how your suggestion would be a little different than that.

DR. BERKSON: This was a suggestion for discussion; but if you look at the table that John is putting together, I would include a second table that would have the first two columns in it similar to the first two columns there that would be the reference points and then the output using

the median values from the probabilistic runs for each of the reference points, so it would be an alternative set of reference points being consistent with the probabilistic with the stochastic runs.

DR. BARBIERI: I can tell you I would like to hear what our council liaison says. Even though we enjoy seeing all these options, my feeling is that the council doesn't, because they're expecting us to provide a little more direct advice out of here. If we don't point them in the right direction, they feel we're not providing the level of advice that would be the most informative to them. This is why in terms of coming up with the stock status determination from the deterministic, by actually presenting the probability that is associated with that estimate to show how much uncertain it is, you're providing them with what they need to make that decision.

DR. BERKSON: I certainly wasn't suggesting you put both of those tables in there without any guidance as to which values to use we need to state. I'm really curious to get feedback from other SSC members. We have got folks that have done stock assessments that are on this panel and folks that have interpreted a lot of stock assessments. I am sure everyone is tired of hearing a couple of us talk.

DR. VAUGHAN: Obviously, I agree that I think the probabilistic estimates are probably more valid; more or best available science; more better. In terms of the table, I sort of like them side by side so I can see them rather than two tables, so that you do have the three columns rather than two tables of two. That is so I can sort of compare them more easily.

DR. BERKSON: Doug, what is your take on what is best available science between the deterministic base case versus –

DR. VAUGHAN: I would go with the median values and the distributional properties from the stochastic.

DR. JOHNSON: I guess I would also probably support the probabilistic methodology as being more, certainly, but I think it also shifts focus on the idea that identifying the distributions of those things more carefully becomes a very big sort of aspect of moving forward in what are the distributions of those things and how are we pulling those from those random distributions, so putting a lot of thought into not picking just five random points of M but perhaps you're giving a lot more thought to those distributions themselves.

DR. VAUGHAN: Yes, if you're going to give the medians, also maybe give a confidence interval about them based on the stochastic runs.

DR. BERKSON: Maybe the way to move forward with this is to continue with the deterministic base case using the kind of table you're suggesting for this assessment and then asking for more detail about how those distributions are constructed and allowing us to review those in more detail for the next set of assessments that come up and basically stating we want to move in the direction of accepting the stochastic runs rather than the deterministic as the basis for our advice, but for whatever reason we don't have the information to do that at this point.

DR. BARBIERI: Right; and I think that is a very good suggestion; and if we can capture that – we're going need to continue discussing this. If you go back and look at several of the assessments, the last dozen or so that we have reviewed, you're going to see that it actually

happens more often than not that the base run that was picked by the assessment panel and accepted by the review panel doesn't coincide with the modal – you know, mean and mode of that PDF.

What I think here comes – and we have dealt with this situation several times – is that when you're looking at picking a base run, you are actually not just looking at the process of chance on how the combinations of those parameters would give you some estimate of MSY but you're actually taking into account the expert judgment of the analysts and the panel and informing those decisions for – you know, although there is a whole array of runs, this one is the one that we think best describes the dynamics of the stock.

To me this is why in terms of the deterministic run being the base run or choice has always carried some different significance relative to simply a process of chance and combination of parameters and data draws. However, having said that, I do think that the idea of going with that table but further discussing this because we're going to see more of this is valid. Jim.

DR. BERKSON: Yes, and to take that a step forward, like I said, I think we also ought to state that our intention is to move towards accepting a run or results from the stochastic runs as the basis for our reference points in the future rather than the results from the deterministic runs because that is what I – I mean, the folks that talked supported that.

MS. ANDREWS: As far as looking at the distributions I would use for what is the MCB now; we do go over those quite a bit at the assessment workshop. It is just input that we get is pretty limited, and I think grasping how all of those distributions will be combined to then get results from the MCB is a tough idea to grasp.

But for an update at least, you would want more input on what distributions go into something like an MCB or potentially prior to an MCMC, that there is a timing problem there. You don't need it often enough for us to get that sort of input in the middle of the process and we can't get information from you or input from you on what priors we should use.

Anyway, I'm not sure how that would work as far as getting input from the SSC on those distributions. We do ask for at least input on those distributions from the assessment workshop for benchmarks.

DR. VAUGHAN: No, we don't want to give you input on distributions of the input; just maybe better clarifying the distribution of the output. I am not sure exactly how we would want to express it in table form.

DR. BERKSON: And to clarify what I was saying, Katie, and agreeing with Doug, I'm not suggesting a process by which the SSC provides input on those distributions. My suggestion was that the SSC, for instance, add an agenda item at our next meeting to better understand that process and which distributions are incorporated with variables, how those distributions are determined so that we have a better sense as to where this comes from.

I realize it is already documented in the assessment reports, but it would give us a better opportunity to discuss it and become more familiar with it; so if we make the recommendation

that we want to move towards the reference points coming from the stochastic runs, we could do that having more knowledge and having more discussion for the basis of it.

DR. BARBIERI: I am looking at the table that Mike is filling in. We have the OFL from the deterministic. Now, another thing that we have discussed in the past – and here they have only projections over three years, so I don't think we need to really chime in with any change in those projections. There is already a short-term projection very appropriate. We have the OFL projections and the ABC recommendation is going to come out of the P-star projections.

DR. SHERTZER: One thing you might want to make clear to the council in your report is just how critically dependent those P-star projections are of the 2010 year class. They're very important for those three years in the P-star projections and then they're going to disappear after that. It would be unwise to use the values in the P-star projections past the years that are actually projected.

DR. BARBIERI: Excellent point, Kyle, and I think it will help document our report and inform the council.

DR. SHERTZER: It is really taking advantage of some transient population dynamics because of the allowable landings.

DR. BARBIERI: Right. So now going back to the ABC – well, the ABC recommendation is the 40 percent P-star table and we're going to qualify that by adding some of the comments that – you know, making some of the points that Kyle just brought up regarding that year class and the fact that we're having some strong year classes sort of inflates the stock biomass temporarily.

Now, going back to our list of action items for this topic, comment on assessment uncertainties; I think that has been fully covered. Do other folks have additional comments to make regarding the uncertainty? Personally I feel that the assessment was very thorough in characterizing the uncertainties, and that was reflected in our application of our ABC Control Rule; our choice there.

MR. CARMICHAEL: And I think that would be a perfect place to bring up this thing that has been mentioned so many times, which is the high recruitment is driving up the potential yield, but it seems to be on a short time period that that could be taken. The council has dealt with that before and it really seems appropriate for them to make that decision do they try to take that yield out each year with its associated risks given where the stock status is or do they choose a fixed yield based on something like some of the percent Fmsy that were provided. I think that is the place where the SSC can really bring in that point for the council to consider.

MR. BUCKEL: The uncertainty, you know, it is 2010 so it seems like a while back, but because this is on a short fuse, all the 2012 data did not come in, so I think it would probably make that 2010 estimate that much – there is that much more uncertainty there, so that point should be made here, too.

DR. BARBIERI: Right. Can we move on now to our last action item; provide guidance on the next assessment type and timing – I think that may have been already covered yesterday when we discussed the SEDAR schedule. Marcel.

DR. REICHERT: We did talk about it but it is on the schedule for 2017, correct; and listening to what Kyle just said, perhaps we should recommend to move an update up because of the uncertainty of that terminal year and the effect of the year class of 2010.

DR. BARBIERI: So having 2015 to be able to have new ABC recommendations for 2016 onward.

MR. CARMICHAEL: Good idea.

DR. BARBIERI: Good point, Marcel. Are there any other comments or questions before we finish this discussion of the black sea bass assessment update from the committee? Mike has a clarification.

DR. ERRIGO: I just want to make sure the OFL is going to be the probabilistic projection at a P-star of 0.5 for 2013 and the ABC values are from the P-star analysis at 0.4 for 2013, 2014 and 2015?

DR. BELCHER: Mike, I think you've got the wrong column then, because the ABC from Table 19 with a P-star of 0.4, it has 2258, 2102, and 1921 for the landings.

DR. ERRIGO: That is total take. That includes the discards.

DR. BELCHER: Well, we've got ABC recommendations listed by year is what I'm saying is the header on the table as ABC but you're giving landings.

MR. CARMICHAEL: What would you like?

DR. BELCHER: Well, I don't have a preference. I'm just saying that it is specified both ways in the table. If it says ABC there; it should give you the ABC number. That is the question. Right, but that number is landings.

DR. BERKSON: That is not how it is presented in the assessment.

MR. CARMICHAEL: I'm asking about this because sometimes there are assessments where you give ABC, then you say it is just the landings; and sometimes you give them where you say it is the landings plus the discards; so if your preference is to give the ABC as in this column that says landings plus discards –

DR. BELCHER: Like I said, the table defines ABC as landings plus discards, but that is the table's definition in the report and not that table.

MR. CARMICHAEL: That is right, the assessment table's definition, and this is your recommendation, so you're saying you prefer to give the recommendation with the landings plus discards.

DR. BELCHER: I'm just saying be consistent one way or the other; I don't care.

MR. CARMICHAEL: I remind you that the SSC has not – but you have not been consistent; so if you want to give landings plus discards; just say yes.

DR. BELCHER: Well, whatever the group feels is the appropriate number.

DR. BARBIERI: Yes, we're going with landings plus discards. One of the advantages of getting these assessment reports from the Beaufort Group is that they already break down all those things and provide us all these projections that are very informative in nature to facilitate our work here. Gregg, you had a comment?

MR. WAUGH: Yes, if you're going to give the ABC value in terms of landings and discards, make sure you explain that because this will be, I guarantee it, a source of confusion from this point forward because what we need to look at is just landings. To me it would be much cleaner to say here is your ABC recommendation in terms of landings only.

DR. BARBIERI: Folks, right now we still have to discuss just a little bit; right there we are going with landings plus discards. By the time that we circulate the draft report to all of you, you will have thought about this a little more and then we have a chance to come back and – because we have done it both ways. I think Gregg is right. We have, for example, given an ABC of zero for speckled hind and Warsaw grouper, and that did not take into account the discards in that case because the expected or projected discards were unknown because there was no assessment. Yes, we are going to have to clarify that.

DR. BELCHER: And the only reason I brought it up was as he was typing it I'm looking at it and I'm not seeing the exact same number. I am seeing an ABC recommendation there and I'm looking at the assessment report seeing an ABC recommendation and they're not matching, that was where I was only pointing that out is that in trying to reconcile that, it does need that point of clarification. That's all it was.

DR. BARBIERI: Yes, and I'll make sure I will add some merit to the language there to explain that so the council will have the figures in a way that will be understandable to them.

DR. ERRIGO: I'm sorry; I really don't mean to throw a monkey wrench in, but previously we decided that a stock is not overfished if the SSB is above SSB<sub>msy</sub>, and now you're looking at the Monte Carlo runs and you're saying that 68 percent of the runs come out above SSB<sub>msy</sub>, so we're good, the stock is rebuilt. I am sure somebody might ask you at some point what is the cutoff? Is 67 percent then not rebuilt; is 50 percent not rebuilt; how would you know if it wasn't rebuilt?

DR. VAUGHAN: Technically, it was the equivalent of 50 percent; because if you hit that level and if it is a –

DR. ERRIGO: I just want to get it on the record.

DR. VAUGHAN: I understand.

DR. BERKSON: To complicate things further, that is true with the deterministic. Now, if we did have the probabilistic and we have decided to go with it, it would really end up being a policy



choice because it involves risk and how much risk the council is willing to take. With things like ESA, those are policy choices as to probability of persistence and that kind of thing.

DR. VAUGHAN: Wasn't there some sort of a judgment in court some ten years ago or so?

MR. CARMICHAEL: Fifty percent.

DR. VAUGHAN: I thought it was 50 percent then, but that doesn't mean it is suddenly the policy of whomever.

MR. CARMICHAEL: And I think the appropriate route is for the SSC to have this and ask the council for some feedback. As Erik mentioned, you could use the median, you could use 60 percent, you could use the mode. When you get into the probabilistic world, there are a lot of ways of looking at it, and it seems that is the appropriate feedback between the SSC and the council is to present it to them in terms of their risk tolerance and do they want to be more precautionary or do they want to take the 50 percent or what have you.

They should weigh the overall risk, which is if we have, say, a rebuilding stock and you're trying to rebuild with 75 percent probability, maybe they're comfortable by evaluating that statistic at the 50 percent level, because they've already got precautions built into when they decide the stock is rebuilt. I think all those things kind of mesh together and it seems that is the way the Act intends that the council gives the SSC some feedback on its risk tolerance on these things.

DR. BARBIERI: Yes, excellent points. Are there any additional points before we break for lunch? Before we wrap up, I want to do a couple of things. One, I want to thank Katie, if she is still there, and the Beaufort Team for this assessment update. You guys always do a phenomenal job in providing us with all the outputs.

It really facilitates the committee's deliberations and discussions to have all the very informative outputs included in the assessments; many of them going above and beyond what the terms of reference actually requested. It is icing on the cake and we appreciate it. Jim has an announcement or an introduction to make.

DR. BERKSON: Yes, just 30-second thing here; I have a guest today I wanted to introduce to the group. Taylor Armstrong, who is sitting behind me, is a senior at the University of South Carolina, a marine science major. She attended our Marine Resource Population Dynamics Workshop, one of 17 that made it in from around the country, in March. Since she was just up the road, I suggested he come down and spend the day with us to see what we do.

I am hoping to bring her on as a grad student, but I'm not sure about funding and whether that is going to work out or not. I encourage all of you to introduce yourselves to Taylor. The faculty members who are here in particular may want to talk with her because if my funding doesn't come through and you need an outstanding potential grad student, you've got one in the room.

DR. BARBIERI: Thank you, Jim; and thank you, Taylor, for coming to the meeting. Dave, you had something?

MR. CUPKA: Yes, while we're giving thanks, I wanted on behalf of the council to thank the SSC for the short time period that you had and the considerations you gave to this. We have scheduled a non-traditional, I guess, council meeting next month, May, via webinar to deal with this one issue. I know you didn't have much time to look at this, but I appreciate you getting through it and it will be very useful during our special council meeting next month.

DR. BARBIERI: I think we are ready to break for lunch and let's plan on getting back here at 1:30.

The Scientific and Statistical Committees of the South Atlantic Fishery Management Council reconvened in the Crowne Plaza Hotel, North Charleston, South Carolina, Wednesday afternoon, April 10, 2013, and was called to order at 1:30 o'clock p.m. by Chairman Luiz Barbieri.

DR. BARBIERI: We should be ready to get started. Welcome back to the afternoon session of the SSC meeting. We're going to go back to our agenda and look at the SEDAR 28 stock assessment review. We have two species. These were assessments for two different species – both are benchmark assessments – cobia and Spanish mackerel. If I understand correctly, Kevin is going to start with cobia.

MR. CRAIG: This is the SEDAR 28 Benchmark for South Atlantic Cobia done parallel with Spanish, which Katie is going to present next. I have divided this into three parts. I will do a brief review of the data, and this is one of the more data-poor stocks that have been assessed from here. Then I'll go through the assessment and an overview of the model output; the uncertainty analysis; a little bit on the projections and then a little bit on a couple of alternative or complementary assessment methods that we considered.

As you know, the review workshop was last October, so I'll summarize some of the additional runs and the discussion associated with that. For stock designation, there was a lot of discussion about this at the data workshop. The northern boundary is pretty clear. We based that on the northern extent of the landings. The southern boundary was set at the Florida/Georgia Border, and that was based on a couple of sources of information. One is from the tagging data and you can see a summary graph of that at the bottom left.

A lot of the cobia that were tagged in the Gulf actually rounded the tip of Florida – that area is shown in blue – but tended not to go much further than Cape Canaveral; whereas, cobia tagged in the South Atlantic off South Carolina, North Carolina, Georgia and northern Florida tended to stay in that region with a mixing zone shown in red there.

We also had some genetic data on the right. These are fish that were quantified across the Gulf and the South Atlantic. You can see there is a break somewhere between northern Florida and Georgia. The suggestion is that might be a little bit further north than the mixing zone based on the tagging data. Then further north there is some suggestion of some genetic differences between inshore estuarine fish and offshore fish, although these were based on samples of foreign populations. Some of that inshore/offshore difference is valid with latitude.

In terms of the stock, this is value of that Florida/Georgia Border. The natural mortality that is shown here, the solid line is scaled to the point estimate of 0.26, which is shown as that gray line here. That is the Hoenig point estimate. Then we had some variability around that that was

recommended by the Life History Working Group that we had used to structure the analysis. Other life history characteristics, using the von Bertalanffy growth with an L infinity of 1,324 millimeters and a K of 0.27; that is the von Bert curve in the graph to the right.

One of the things we didn't have a lot of information on was female maturity. We had a handful of fish that either had ages or lengths and associated maturity information. This led to the maturity guide where we assumed there is no evidence for any maturity from fish less than a year old. All the fish that were four years old or greater were 100 percent mature. The life history working group recommended an age 50 percent maturity at two years.

We had some information on age-based fecundity for 37 fish; so not that much. In the base run in our assessment model, we used mature female biomass as a measure of reproductive potential. Then we did use sensitivity runs based on fecundity where we used that size-based relationship for batch fecundity in the spawning period. At 50/50 sex ratio, we did have a matrix that didn't really play much role and the fish were pretty easy to age. There were four readers in this case but that was 90 percent.

We considered two fishing fleets; one a general recreational fleet; and then a second, a general commercial fleet. The general recreational fleet was comprised of charterboats, private recreational vessels and shore-based landings from the MRFSS/MRIP Program; and then we had landings from the headboat survey.

Greater than 80 percent of the recreational landings were from the private recreational mode; so the shore mode, charterboat and headboat. We split the remaining 20 percent of the landings. We also had some information on discards; not a lot. We didn't have information on age or size in an estimate of discards to estimate selectivity. It is hard to predict discards; 11 to 5 percent of recreational landings, so we pooled those with the landings as recreational. All of those landings and things I will show later are a combination of the actual landings and then the estimated dead discards.

For the commercial fleet, there is not a directed commercial fishery for cobia, but most of those are handline. Some are caught on gill nets, pound nets and various miscellaneous gears. Estimated dead discards in the commercial sector are less than 2.5 percent. This shows the time series of those removals that I just described. The recreational is shown in blue and commercial is in red.

The point here is most of the landings are recreational since 1981. Then we have estimates of about 92 percent removals have been recreational and about 8 percent commercial. Prior to the early 1980's, we had observations on the commercial landings, but there is at least a hind-casting method to generate the recreational landings prior to 1989.

That method is described in the data workshop report. There has been two management regulations relevant to cobia. In 1983 there was a minimum size limit of 33 inches, about 830 millimeters, about three to four-year-old fish. Then in 1990 a bag limit was imposed at two fish per person per day, and those were identical for both the recreational and the commercial sector.

We had some information on the age and length compositions of the catch. This table is showing the sample sizes by year. The green on the left is the sample sizes of the recreational fishery and

then on the right in blue is the commercial fishery. The length compositions are on the left and age compositions on the right; and then you have number of fish and number of trips.

We don't have a lot of fish samples particularly for age compositions and particularly for the commercial sector. We did use annual length at age compositions for the recreational fleet; but because of the limited sample sizes, we pooled the commercial length at age compositions over the years and weighted by the sample size to get a selectivity for the commercial fleet.

Down below you will see this highlighted in yellow are years when the sampling intensity for the recreationally age caught severely increased. I highlighted that because that later played a big role in this assessment. A lot of this assessment hangs on the last seven years of age composition data where we had somewhere in the neighborhood of 300 and 400 fish over this time period of 2005 to 2011. I will show why that is so a little bit later.

These are the age compositions by year starting in 1984 in the upper left and then going down the column. The Ns are number of fish taken as far as sampling throughout the 1980s and most of the 1990s and then 6,000 to 18,000 to the far right. There is some indication of cohorts progressing through based on the age compositions. I will just highlight a couple. If you look at the bottom left, but where that cross is those are age three fish that show up in 1990, so that is the 1988 year class; and as you go to the top of the next column, these are age fours in 1991 and age fives in 1992.

Similarly, this is another cohort from the late 2000s. These are 2005 fish that show up in the fishery at age 3 in 2007, and then you can see the progression of age fours in 2008 and so on. There were some indications in the age compositions that the cohorts are what is happening. We had three potential indices of abundance we considered that were recommended by the data workshop.

The headboat survey basically covered the entire range of the stock and the longest time series since about 1981 to 2011. The MRFSS/MRIP Survey similarly covered the geographic range of the stock over the years '85 to 2011. We also considered the South Carolina Charterboat Logbook Index, which was of shorter duration, 1998 to 2011, and it was only for charterboats in South Carolina; but given the stock conditions and indications where most of the landings and perhaps the center of the population might be off South Carolina, it would be reasonable to use that index. All of these indices are fishery dependent.

We only have a fishery-independent index because they're all based on recreational by year. They're were all standardized using delta-GLM. One of the issues that came out throughout the assessment and we tried accounting for that is that most cobia are caught as single individuals. In fact, better than 80 percent of recreationally caught cobia are single fish.

These show the three indices together on the same plot, the headboat index in the blue, the MRFSS index in the black and then the South Carolina Logbook Index is pink. They're all highly variable, particularly the headboat and the MRFSS index. They not particularly well correlated. Part of that is due to the high angle variability.

In the initial model run we had some difficulty fitting those three indexes, and the assessment panel recommended that we exclude the MRFSS index. The basis for that was the low MRFSS

sampling survey and cobia is a rare species, and they recommended that the sampling index was adequate. There is some concern about changes in MRFSS sampling effort over time and the input from that index.

We did do some comparison between strong year classes that showed up in the age composition that corresponded with peaks in the index, and they seemed to much more so in the logbook and headboat index than the MRFSS index. The MRFSS index was excluded based on – we did a number of sensitivity analyses and various combinations of indices to evaluate the composition. That is what I have for the data. Are there any questions on the data summary?

DR. BARBIERI: We have no questions, Kevin; go ahead.

MR. CRAIG: For the assessment, we used the Beaufort Assessment Model that Katie described for the black sea bass. However, I'll show how we configured that for cobia; and then also on model output I am not going to show a lot of the fits to the data. Those are in the report and I do have the slides at the end of this presentation. If you want to see the actual fits to the indices and the age and length compositions, I can pull those up.

We tried another configuration; we had a start year of 1950; the terminal year assessment, 2011. We modeled ages one through twelve with twelve being the plus group. As I said before, I had two fleets, the general recreational fleet and the general commercial fleet with discards pooled with the landings; the base run, the fit to the headboat index and the South Carolina Charterboat Logbook Index.

We assumed constant catchability over time with an effort  $Q$  for the two fleets. Productivity was assumed constant times twelve and logistics were flat top for both the landings and the indices. For the annual estimates of fishing mortality for each fleet and the age-specific estimates to the product of that full  $F$  was estimated to the age.

For the initial numbers at age, those were computed assuming an age structure and a historical fishing mortality, which was taking the average estimated  $F$  for 1950 to '52. We believe that 1950 toward the end of World War II the stock was pretty much exploited. We assumed the Beverton-Holt spawner-recruit relationship, lognormal recruitment deviations.

(The rest of the presentation could not be transcribed due to the quality of the recording.)

MR. CRAIG: That's all I have and I would ask if there are any questions?

DR. BARBIERI: Are there any questions for Kevin? Kevin, I have one. The fact that you are working with a fixed steepness value; was that a recommendation of the assessment panel?

MR. CRAIG: It was a recommendation. Earlier we really had a difficult time getting any kind of estimate of steepness. What we did do was look at some prior review papers on steepness for fish with various life history patterns, and that value of 0.75 was the value for steepness that has similar age at maturity and similar growth dynamics to cobia.

It is also a value that has been recommended by CIE reviewers in previous SEDAR assessments; so that is what we went with and that was vetted through the assessment panel. It incorporated

any uncertainty analysis so in both the sensitivity analysis and MCBs we had a range of steepness values from 0.6 to 0.9 and then it was based on a life history profile that suggested that steepness values within that range were plausible for this stock.

DR. BARBIERI: Right; and that makes sense. I am not particularly unhappy with that 0.75 for a base value for steepness. I saw you ran sensitivities with 0.6 and 0.9. The issue is if we put here as an SSC our bean-counter hats on and we have got to look at how we're going to handle – you know, the stock determination criteria is the issue. Since you're not able to estimate steepness and use the stock-recruitment relationship, then do we have a straight-up MSY estimate or in this case we should discuss a proxy SPR value? Because, in that case, Kevin, how is the uncertainty in steepness being explicitly taken into account in the projections?

MR. CRAIG: (Answer could not be transcribed)

DR. BARBIERI: Right; and according to that, it is being carried forward using that stochastic approach?

MR. CRAIG: That's right. (Rest of answer could not be transcribed)

DR. BARBIERI: Thanks, Kevin. This is I think more kind of sort of going back into the philosophical issues that we have to discuss here; because when you look at our ABC Control Rule, we assign different P-star penalties to assessments depending on whether you have an actual MSY estimate you are able to use the stock-recruitment relationship parameters and came up with a true MSY estimate versus using a proxy SPR value.

I'm trying to struggle here. I mean, when you fix steepness to 0.75, it basically assumes some level of constant recruitment at that level, right, giving a selectivity pattern, right, so it is really fundamentally equivalent to an SPR proxy in that way.

DR. SHERTZER: I would argue that they're very similar. In this case you're choosing a steepness value that determine at least that part of the spawner-recruit curve. (Rest of answer could not be transcribed) My feeling on this is that you're better off – or you have more information choosing a steepness value than you would choosing a proxy value for Fmsy.

DR. BARBIERI: Right; and I don't disagree with that, Kyle. I think that is a good point. It is just the way – you know, it is something for us to discuss here in the SSC about how we're going to handle those situations because of the way of how our ABC Control Rule is structured and how we actually phrased it there and the expectation that if we cannot really estimate – I mean, looking at the review report here, the review panel found the stock-recruit relationship was not informative in the context of the parameters needed for management against MSY criteria.

However, the stock seems to be in a state of reasonable, not impaired recruitment, and in that sense it is informative. I understand your points; I agree with them. I'm just putting my SSC member hat on here trying to reconcile how we handle that in applying our ABC Control Rule. It's really more, I guess at this point, a question for the committee when we get to that point, perhaps, to discuss how we're going to handle the application of our ABC Control Rule.

I mean, we could;, and I think if I understood correctly what Kyle was explaining is that based on the meta-analysis and that choice of steepness, we might have a more credible estimate of MSY than we would have by just kind of sort of arbitrarily picking a predetermined SPR value. In this case I think the P-star analysis can be done with the distribution that is more realistic in terms of the variability of recruitment being carried forward. Anyway, it is something for us to discuss when we get to that point of applying the ABC Control Rule. Are there any points or questions from the committee for Kevin? Ben.

MR. HARTIG: One of the things that – and you all will know this well because I’ve mentioned it a number of times about the sampling protocols. After we got through cobia, it was obvious that we got through by the skin of our teeth by being able to track the cohorts with the limited sample sizes we had. That was the only reason the reviewers bought into it because you could actually see that in the limited data we had.

Is there any feedback loop going from the assessment branch back to the center moving forward saying something about the number of samples need to be increased in the future to be able to realistically assess cobia as we go forward?

MR. CRAIG: Not that I know of, Ben, but I think that would be a good point to make. You heard what I said earlier, but you’re right that the assessment does hang on the age compositions and on the dominant last five to seven years of age classes. In general those are collected in a fairly \_\_\_\_\_manner. It was actually surprising to me that we were able to see any indication of cohorts given the sampling methodology and the low sample sizes of age compositions. To answer your question, I’m not aware of any –

MR. HARTIG: No; that was a good answer. You answered it honestly that you really don’t have any feedback back to the center on moving forward with some kind of protocol that at least incorporates that last numbers of samples where the whole assessment is hinging on. If we don’t at least have that level of sampling going forward, we’re certainly not going to be able to do much with cobia in the future.

I think, if I’m not mistaken, a lot of that sampling was out of South Carolina. Those numbers in particular were increased because of South Carolina sampling. Now, I know we’ve got a review of the protocols – well, actually, the protocols weren’t going to be part of the data review that I guess is almost currently going on or has started already, but they are now, so hopefully we can get some resolution to this moving forward. This is assessment-wide.

It is not just cobia; it is not Spanish. If you look at black sea bass, you see where – you know, if you looked at the protocol and set it up by relative contribution by gears, you would see that certainly you would think you would have more commercial samples coming out of the pot fishery since they catch 90 percent of the catch;, and it is just opposite, you have more and sometimes twice as many samples coming out of the hook-and-line catch, which is only 10 percent of the fishery.

The representativeness of these samples of the gear types and stuff is in question, and hopefully we can get this done. You’ve heard me before on the record and say it is partial our job to make sure that you have the necessary information to assess these stocks. This whole SEDAR process

is a phenomenal process and so much work goes into it, to look at what we struggle with as inputs is sometimes criminal in my mind, to be honest with you.

That is the most disappointing part of the whole process is that you're not armed with the information necessary to do what you do so well. Hopefully, what comes out of this review is that we will be able to get a better sampling protocol for all of our different species and we will be able to move forward to give you the necessary information. Thanks for your answer.

DR. BARBIERI: Okay, folks, are there any other questions for Kevin? If not, we may ready to go back to our list of action items in our overview document. The first action item is consider whether the assessment is adequate for providing management advice. Would anybody disagree that this benchmark assessment provided the results to represent the best available science and adequate for providing management advice?

All right, no issues from the committee, so, Mike, I think we're supposed to have a statement there, which we can build later, that formally includes that language. The next item is to provide fishing level recommendations for cobia that are consistent with the ABC Control Rule. We're going to go over our control rule dimensions and tiers.

Dimension 1; assess the information; Tier 1, quantitative assessment provides estimates of exploitation and biomass that includes MSY-derived benchmarks. I think this is the part that we're going to have to think about; because in the second tier, reliable measures of exploitation or biomass, no MSY benchmark, proxy reference points, and that would cause a penalty of 2.5 percent; and then the other lesser assessment information on tiers that I don't think are applicable in this case.

This is one of those that we're going to have to think about whether we consider that having this fixed well-informed by that meta-analysis and the fact that that value of steepness aligns well with the biology of cobia, but could not be estimated; so do we consider that an MSY-derived benchmark, and that is the conundrum that I was envisioning coming our way. Church.

DR. GRIMES: There is also running through this in the assessment – you know, at the end of the assessment review document and it agrees with Tier 2.

DR. BARBIERI: So in that case, one way to that we could handle this would be to go with Tier 2 but use the MSY estimate that is derived through the fixed steepness since philosophically it corresponds to some SPR-based benchmark. Would that be acceptable to the committee? Are there any concerns? No; so we go with number two?

The uncertainty characterization, Dimension 2; in fact, we said this morning for black sea bass complete, high, medium, low and none, so here is a matter of deciding where we have high or medium uncertainty characterization. Remember that Kevin used the same MCB approach, and I think that the approach was very similar if not exactly the same that was used for black sea bass. It has been used by the lab consistently.

Unless anybody or somebody has a concern, I would go with high. We're going to have another 2.5 percent P-star penalty. Then stock status, Dimension 3, it is neither overfished nor overfishing. As Carolyn pointed out this morning, now it is a matter of looking on whether the



stock may be in close proximity to that benchmark value. I don't have it in front of me right now. Ben.

MR. HARTIG: Do you have any qualifiers on what "close" means?

DR. BARBIERI: I'm sorry?

MR. HARTIG: Do you have any qualifiers on what "close to the benchmarks" mean? What is close; what is far away; what is medium; what is –

DR. BARBIERI: No, we don't; and this is a good point, but this is one of those situations when committees like this have to leave themselves some room to exercise expert judgment; because otherwise it becomes so formulaic and prescriptive. If we go completely just through a completely quantitative pontification on each one of those judgment calls that we could just push a button and have some machine repeat that process; so this is really a way I think for us to have a structured protocol for evaluating these issues but allows some flexibility for us to exercise professional judgment and expert –

MR. HARTIG: I don't have any problem with flexibility.

DR. BARBIERI: I am glad that you asked because this is a good clarification I think to put on the record regarding this issue. Looking at the benchmarks there, yes, we are definitely not close to the benchmark, so that would be number one, tier one with zero percent, no penalty. Then Dimension 4, the productivity and susceptibility analysis, but we have those cited.

MR. CARMICHAEL: We have to look somewhere else.

DR. BARBIERI: Yes, we have those cited somewhere. Bear with us, John is looking through the PSA documents to see what score comes out of that.

MR. CARMICHAEL: According to the PSA analysis and looking at the one done for the Gulf, cobia came out as a 3.29 overall; which looking at our ABC Control Rule and the ranges, so that puts it just slightly into the high risk. If I look at the PSA analysis, they did classify it as high risk for cobia.

To kind of look at what things were high; availability, it got a high behavior; encounterability, it got a high bathymetry; selectivity, it got a high on max size; got a high on desirability; got a high on post-capture mortality; so those are the kinds of things that were into that score. It scored 3.29 and 3.18 and above is high risk.

Life history, it got a high age at maturity; a medium size; a medium max age; a high max size; low fecundity; low reproductive strategy; and a high trophic level. The productivity score was 2.14; susceptibility score was 2.5; overall risk score was 3.29. If you're curious, I'm getting all this from our last August ORCS Workshop attachments. It was Attachment 10 from that workshop; PSA Gulf Results.

DR. BARBIERI: That brings us to the previous question from Ben, right, about how prescriptive this thing needs to be versus us discussing here based on a whole number of different criteria. Do you have a comment or a question, Ben?

MR. HARTIG: Yes, I don't know how, when you look at – what was I looking at; did it go away – but cobia grows like dolphin. It has an incredible growth rate; it is a high fecundity stock species; spawns at a relatively low age. I don't know we're getting a high out of this animal. The other thing about cobia, which nobody takes into consideration, the migratory pattern is inside the area where most people fish.

They're a coastal depth range species that migrates in that probably 30 to 60 feet of water where rarely people even fish, so most of the stock is getting by anglers. Now, yes, there is some targeting on rays and different animals, but I mean most of the stock is getting – it is not an area where most people fish. That is not in your characterization, but that is one of the things that has always interested me about cobia is their migratory strategy takes them out of most anglers' ability to catch them.

DR. ERRIGO: I looked at all the DNR charterboat data, and it shed a little bit of light on how they're fished, if this helps. There is a peak in the landings in the summer months, May, June and July, which corresponds to spawning. Apparently they come inshore and aggregate to spawn. In South Carolina they often have like – that is when a lot of their landings happen. It is also when they have these cobia tournaments in the southern part of South Carolina.

Then apparently after that, the thought is there is a large offshore stock and they are rarely fished on. If you are going to go out, you're usually targeting something else, and they're fairly spread out. They're not aggregated like they are during the spawn. They're susceptible only during certain parts of the year apparently to – at least according to the data that I have seen and anecdotal conversations with people who have studied cobia.

MR. BUCKEL: It is a similar fishery in North Carolina. The recreational fishermen target them inside, in deep holes, in May and June, but there is also the group that targets the free-swimming fish that are migrating through in 30 to 60 feet of water and are up against the beach sometimes. They just cruise along the beach looking for fish swimming at the surface and cast net them. That latter fishery certainly isn't as susceptible as the former – or we just listed black sea bass as a two and black sea bass are highly susceptible. Throughout the year they're always aggregated. I would have a hard time including this group in a three when we put black sea bass as a two and even calling cobia a two, given the life history things that have been mentioned by Ben and have been published on them as well as what we've just talked about with the fishery; so somewhere between one and two would be my vote.

DR. BELCHER: Only because procedurally it is a question, but if we have recommended that we're following a PSA approach and we haven't done a PSA for the South Atlantic stock; wouldn't it bode that it would be better to do that than argue a way from using – or I understand why we're saying that we don't agree with what was done for the Gulf, but there isn't one that has been done for the South Atlantic; meaning we don't have a quantitative assessment or a PSA value.

You can't go to the MRAG report for the South Atlantic and find a cobia value. Given what is in our control rule, we specifically say that we're looking at that as our means of determining those levels. Does it bode that we'd actually have to do a PSA analysis to make this determination?

DR. BARBIERI: I would say no; I would say that this is when the expertise around the table becomes the most relevant, and it is the value of having a committee of scientific advisors that can draw on their professional experience and make a recommendation based on what they know. Now, it is more convenient when we have that done the proper way and that can facilitate that decision, but in this case something was weird.

DR. BELCHER: Well, what I'm saying is it was done based on information for the Gulf stock. John might have a point on that.

MR. CARMICHAEL: A little bit, yes, because I wanted you to wed yourself too hard to that idea, because actually here is the analysis. They did it for the coastal migratory pelagics. They reported it under the Gulf, but you had king mackerel, Spanish mackerel and cobia. They're all the coastal migratory pelagics; they are managed under one FMP.

So how much they looked at specific information from both regions, we don't really know without looking at this in more detail, but I think I would look at this and say this is a value that is for the cobia in the coastal migratory pelagics plan, and it is just as valid for the South Atlantic as it is for the Gulf of Mexico.

The black sea bass, yes, the sea bass in the Atlantic got 3.02 overall and here is cobia getting a 3.29 overall; and I think the one procedural issue you guys are going out on a limb a little bit and you should probably make sure you discuss it and make it clear is you did agree to use this table and we have used it as a table about eight times. If we now deviate because we say we looked at cobia and we don't like it, that is kind of not a very desirable position unless you're really clear as to what in this series here this information do you think maybe is incorrect about cobia that would change the score.

DR. BARBIERI: And I think this is a good point actually, because in a way I think we need to discuss this. PSA analysis in general involves expert judgment and making a number of decisions by a group of people. Although I don't disagree that this document is informative, I don't consider this a peer-reviewed document that is completely right on everything that is presented there.

There are situations when I think that information there aligns well with the opinion of the committee in terms of that risk analysis and it helps us inform our decision; but in this case, as a fisheries biologist, myself, I would be hard pressed to sit before the council and justify that cobia is a high-risk fishery especially relative to black sea bass as a hermaphroditic species that supports commercial and recreational fisheries that are orders of magnitude larger than cobia and can be highly targeted by a number of different fleets. In this case I would say the way that I am interpreting this is the committee is looking at the result, is questioning it, and we are re-evaluating that assessment based on joint expert opinion. Carolyn.

DR. BELCHER: And I'm not disagreeing with that, but what I'm saying is we have painted ourselves in a corner with how it is written in the ABC Control Rule, because the ABC Control

Rule specifically says that we're going to be incorporating the MRAG formulation for PSA; and to the level that we're looking at the PSA tiers, we specifically put the scorings as to how they're going to be classified following Hobday.

As long as that language is that strong in there, that is where I'm saying either we need to adjust the ABC Control Rule that gives us that flexibility to have those debates to say whether or not we can argue out of a high risk when we don't think it is high risk. But right now the way I'm reading this is we're kind of held to the structure of what is in the ABC Control Rule, which specifically says MRAG PSA with the following caveats of high, low and medium. I'm saying we need to work on that language in that document to give us that freedom.

DR. ERRIGO: I was just talking with John. This evaluation is supposed to be for all of cobia, basically the entire complex. The problem is when they did the SEDAR 28 assessment, they drew the line for the cobia stock at the Georgia/Florida Border. Before they did that, when we were looking at the data and the stock went all the way down through the South Atlantic jurisdiction, it drastically changed what the fishery looked like.

Right now the way it was run, South Carolina landings for cobia are the largest and the South Carolina DNR Charterboat Index was used because it was in the center of the range and encompassed the bulk of the fishery. If you included the rest of Florida, that changed completely. The landings from Florida on the Gulf side are much, much larger than they are here.

So this assessment is looking at a very different piece of the cobia puzzle than the entire picture. In fact, I think it is a very small piece and perhaps even a fringe of everything else. A lot of these things like age at maturity and size at maturity could be different in this stock as defined by SEDAR 28 than they are for the whole thing.

MR. CARMICHAEL: And so looking at this, one thing I want to draw your attention to – and this would be enough to change the score in itself is that I was trying to compare black sea bass and cobia, because black sea bass came out medium. One thing that caught me was right here at the top that says age at maturity for cobia is high.

Well, under the black sea bass analysis for the South Atlantic, the age at maturity for cobia is low. It is probably pretty similar so I looked back at the South Atlantic cobia and sexual maturity coming right out of the assessment report; sexual maturity for male cobia in the South Atlantic appears to occur at a very small size, and it appears to occur well before they reach age one.

So, it is not possible to determine the smallest size at which male cobia reach sexual maturity, but it appears to occur well before they reach age one. The smallest mature male was 207 millimeters in two to four months of age. It would seem there maybe is a difference in this stock and there would be justification for probably just from the score of that one category alone that you could support saying actually we think cobia in the South Atlantic in this stock is probably a medium productivity and still not be in violation of your control rule.

DR. BARBIERI: Right, but I do think that Carolyn brings up a good point, and I think in this situation we should look at that language at some point and discuss it. If we don't give ourselves

some flexibility, this is kind of like we're – I was answering Ben's question about how we handle a lot of this other criteria that is described; and if this is going to be simply pick a number from a document, and we don't give ourselves – if that language is that prescriptive, I think it will be worth us adjusting that.

John just reminded me here that our agenda item that we started yesterday about control rule modifications that we discussed; maybe we can include this one as well. Back to the grind, now having had this discussion and having come to the conclusion that this assessment is really based on this part of the range that was considered in that PSA analysis, we're going to ask the committee to make a recommendation about the productivity and susceptibility of cobia, because we cannot get a well-informed value out of the PSA document. Would anybody be in support of considering cobia a high risk-stock? Would anybody be in support of cobia being a low-risk stock? It is clear that the document has consensus with going with a medium risk. No?

DR. BELCHER: I think my hard part of it is I would almost feel better looking at the PSA table and seeing where I think the group's opinion differ from what is already in that table and seeing what comes out of that. I know that sounds kind of – I know it is additional work and it is not something that is answerable now, but I still feel that is a more beneficial exercise than just saying whether it is – I don't necessarily think based on the expertise that it is high, but I can't really say if it is low or moderate because I don't know enough to answer that tease out.

DR. BARBIERI: Right; and I don't disagree with that; we could do that, but we're going to have to resolve this today, right now, and proceed because we're going to have to have a P-star determination. I am ready to go through that document now and we evaluate those criteria. Is that what you're suggesting?

DR. BELCHER: We still won't have an answer unless we can run the PSA analysis to get a number, though.

DR. BARBIERI: Well, running the PSA analysis involves having all the biological data, all the information to inform that scoring.

DR. BELCHER: I'm trying to think how best to say it. In thinking about the quantitative categories that are there – and I guess that is the question that I don't know again at each of those steps what is involved in it, but I have a hard time feeling like I'm pigeon-holed and making a decision on the fly when we have the ability and the tool to get us to a better place.

DR. BARBIERI: And that makes sense, Carolyn. I am just saying I don't think that this is something – because it involves P-star, I don't think that this is something that we can do in a few weeks. It has to be done; here we are and I think we can put the table up there and go through the criteria. I don't disagree; I mean, that would help really document what our decisions are based on, right? I don't think this is something we can postpone.

DR. BELCHER: Well, is another solution to possibly look at the three different P-stars that would come out of that? I mean, you basically are adjusting it by three different levels, right, so you would either give it no decrement, a 5 percent decrement or a 10 percent decrement; so there would be three potentials – you know, based on the penalties, there would be three different penalties and then let the work be done that needs to be done.

I know that sounds like it is still kind of putting it on hold, but we're saying we can't do it in a couple of weeks. Well, we still have those things documented; but once an analysis is brought up to a level for that, it is just a matter of checking which one of the three is there. They're already there; they're already calculated. It is just a matter of pushing the one forward.

Like I said, I guess maybe it is the issue of the fact that the control rule is the way it is; understanding the need to modify it – and I'm not arguing against that point, but it is kind of the chicken and the egg argument as to how we're doing this. I'm kind of stuck. I understand I want to progress forward, I don't want to stymie the process, but I'm still hesitant because of the way the procedural outline is there. It is kind of like are we modifying the ABC Control Rule because of an example or are we modifying the ABC Control Rule because we need to modify it? Do you see what I'm saying? It is just the before and the afterwards.

DR. BARBIERI: I do; and I think this is explicit in the language of the control rule that we had already envisioned that this process would be a dynamic process and that the control rule would have to be adjusted over time, that this would not be a static document that would be forever including just the criteria that are there because science will move forward and we are going to have to adjust it accordingly.

I think the more that we learn about applying this control rule and the more we learn about the process, the better we can refine the document. I don't have a problem with this being a living document that will be progressively adjusted. I do feel that we have identified through this example – it is like the same discussion that we had over black sea bass and the P-star and the MSY estimate. Through this example we have identified an issue. We just have not run into this issue before, but right now we have identified an issue that needs to be addressed.

MR. CARMICHAEL: If it would make Carolyn and others feel better, my understanding of this is it is just a simple scoring thing; and the productivity scores were scored one to three for the range of high to low and the susceptibility scored one to three for the range of low to high. I guess everything that is a median anywhere counts as a two. If you wanted to go through and change these values for cobia, we could calculate the new score for this approach.

DR. BARBIERI: And that is what I was proposing because we go through there –

DR. BELCHER: I agree with that. I wasn't understanding that is what you were proposing. I was understanding we were going to talk about it and basically use expert judgment to argue for high, medium or low without having any quantification. That was what I was understanding and that is why I was kind of –

DR. BARBIERI: And that is what I was proposing initially because my experience is that oftentimes we kind of think that quantitatively representing knowledge means higher precision and higher accuracy and best quality of our advice, and that is not necessarily the case. In many cases we are applying – and this is just part of how people exercise their professional judgment and their expertise.

I would interpret this capability to look at the data and draw and make physical inferences and draw conclusions from any quantitative measure that we can come up with. In that case I was

saying we can use our collective experience here knowing the biology of cobia to make a recommendation on that risk level. But given your concerns, which I agree with, Carolyn, I'm not disagreeing, I think you would feel more comfortable if we went over – which will help document our discussion, right?

DR. BELCHER: Like I said, I'm comfortable with going forward with the group. Obviously, my opinion is only one in the group. I'm just thinking again, as you're stating, understanding that our expertise counts qualitative or quantitative; but when we put ourselves out there as saying that we have a qualitative approach and we have the ability to look at the qualitative, that was my concern is I didn't want us to back ourselves away from something like that because we were time constrained.

To me that is where I think we start walking a dangerous slope of, well, we're time constrained so we're not going to put that kind of effort into it. I am not meaning it sounding as derogatory as that just sounded; but when you do have that time crunch, I just don't feel at times that we should be feeling compelled to all of a sudden, you know, time out; let's retract, go back to a qualitative assessing when we can just take a couple of minutes to actually try to look and see if it is potentially possible to do a quantitative.

DR. BERKSON: We could have gone through this whole list and have a new value and finished our P-star in the last ten minutes that we have been discussing this.

DR. BARBIERI: And that would be based on qualitative knowledge?

DR. BERKSON: I'm assuming we could go through sort of category by category and –

DR. BARBIERI: Right; but how do we assign the scores to that category?

DR. BERKSON: I'm assuming the way it was done for the Gulf and other species.

DR. REICHERT: What we are saying is we are discussing this because we don't feel that the PSA value is representative of the stock that we are discussing here. It is not that we need more flexibility in the ABC Control Rule – and I think that is also what Carolyn argued – maybe we should look at the PSA value. That is one thing.

The other thing is maybe we can't run through the entire exercise, but we at least can do, based on our current expert knowledge, is what are the categories that we may want to change and where do we end up and use that as a category and then have a recommendation for someone or a group to look at the South Atlantic cobia to see if we can get a more solid number that may fall in the range that we have selected or it may not, and then we may have to make some adjustments. That's my recommendation.

DR. BARBIERI: And that makes perfect sense, and I understand it now. I don't have a problem with this.

DR. JOHNSON: It is my understanding that basically low, medium and high corresponds to one, two and three as an average; and the productivity/susceptibility score, as I remembered, is

the square root of the productivity score squared plus the susceptibility score squared; and we could easily check it if we wanted to play with some of those.

DR. BARBIERI: Right; so we're going to go over those values there.

DR. REICHERT: One of the things that John said was, for instance, the age at maturity for the Atlantic; that may not be high; so let's put medium and see where that lies. I see we have to change a lot to bring it from high to low, so I think we may find out that medium is probably a good estimate for this stock.

MR. CARMICHAEL: This is something theoretically you can do. The issue is we're not exactly sure how all of these were calculated. You are welcome to read what is in the report and see if you can interpret it better than I could, but I'm having a little trouble taking what is written about the scores and plugging in numbers in the spreadsheet and getting the exact same values and then how the overall was calculated. It is not going to exactly be a short exercise; and I just think we need to be cognizant of another whole assessment that needs to be reviewed and whether or not we're not just sort of barking around the bush but not really going anywhere.

DR. BARBIERI: At this point I would suggest let's take a ten-minute break. We're going to look into this issue during the break and we will come back and discuss it more fully.

DR. BARBIERI: All right, folks, back to the grindstone. Eric, were you able to look into this and come up with some numbers?

DR. JOHNSON: Yes, I think so. The top part is easy. It is an arithmetic average; so you just add them all together and get a number. The bottom part is a bit more troublesome. It looks like it is some sort of weighted average. But basically the PSA score is correctly formulated; it is the square root of the P and square root of S squared. If we're comfortable changing age at maturity of cobia from a three to a one, it knocks the PSA score below without changing the second half that we're sort of not as understanding.

(Question asked off the record)

DR. JOHNSON: That is correct; just because it is so close, it is sort of on that border, so that knocks it from a 3.29 to 3.11, which then goes below that cutoff of 3.18.

MS. LANGE: I guess based on that; is there any further concern to classify it as a medium if we can document that we've replicated and based on local knowledge or expertise that that one characteristic if we are – and we're looking at an age of maturity of less one, so I can't see how that would – right, it is documented.

DR. BARBIERI: Right; so we looked at the age at maturity and changing that one score brings the overall PSA scoring to a medium. We are comfortable, then, going forward with that? Okay, so that will be at 5 percent –

DR. VAUGHAN: I just want to be sure it is documented.



DR. BARBIERI: Right; so the total is 10 percent. And if I remember correctly what Kevin presented, we already have the P-star done at 0.4, so we can go now to the table and start filling in the values for the different criteria. The overfished evaluation is the stock is not overfished. The overfished value is not overfished and not undergoing overfishing; and the values are coming out of the stock determination table. The same thing with MFMT, MSST, MSY; the ABC Control Rule adjustment is 10 percent and the P-star is 0.4.

For the OFL I imagine that we are going to continue using the projections at a P-star of 50 percent. I don't remember from Kevin's presentation what the projection period that we have there is, but I think – okay, so Kevin is going to be sending the table with the P-star projections, and from there we can just get the values for OFL and ABC. It is just a matter of deciding the projection period that the committee is most comfortable with; right, the projection period that the committee is most comfortable with. Are there any recommendations or suggestions there? We used three years for black sea bass. Jeff.

DR. BUCKEL: I think the projections have typically been longer than the three years. I think one of the reasons they held it to three years is because of that concern about the 2010 recruitment year class. I think what Kevin has here is 2013 through 2016, what he has done, and I'm fine with that given the stock status and how things looked with multiple assessment approaches.

DR. BARBIERI: That sounds good to me. Would anybody disagree with the suggestion that Jeff put forward to go with 2013 through 2016 projections, time horizon for cobia? Hearing no concerns; that is what we're going to go with. The next action item for this agenda item is comment on assessment uncertainties.

Again, I think we have discussed this as we worked through our control rule and that we find this assessment to have characterized uncertainty well and thoroughly. The next item is provide guidance on the assessment, the type of assessment and the timing. Marcel.

DR. REICHERT: I am wondering unless we get a significant increase in the available data, I am not sure how much more would gain from – like we discussed the black sea bass; the three years or four years. I think it is very difficult to say when we would need an update unless we have a significant increase in the available data. I think it is very difficult to say at this point.

DR. BARBIERI: Jeff brought up the point that since at this point the stock is not overfished and not undergoing overfishing, I would imagine that the SEDAR Steering Committee is going to take that into account to some extent by looking into the future. We have projections over a three-year time horizon, so I don't know if it would be appropriate for us to recommend a tentative update for 2017.

MR. CARMICHAEL: Well, I think you should also think about considering the status of the stock and what the levels are and when you might need it again; I mean, it is possible to get projections for a longer time series. It is a little bit easier maybe sometimes than getting an update; and considering the assessment workload, would this be a really big high priority, say, for 2017 or would you maybe like to extend it out longer. One thing the council often does is that they would hold that last value in place until they get the next run, anyway.

DR. BARBIERI: And one idea would be for us to qualify that recommendation and we say that we suggest an update in 2017, but we consider this stock a lower priority stock. Okay, that completes our action items for the cobia assessment. If Katie is ready, we are ready to look at the Spanish Mackerel Assessment.

MS. ANDREWS: Okay, let me go over the SEDAR 28 Benchmark for the South Atlantic Spanish Mackerel that was done along with cobia and initially the Gulf stock for both species. I'll start with the data review. First the stock definition; the Atlantic stock is considered to start kind of along the Keys and proceed on to Maine. The majority of the fishery is off of the coast of Florida, but landings' data are also tabulated from Georgia, the Carolinas, Virginia and then a category north of Virginia.

There is genetic differentiation between the Gulf of Mexico stock and the South Atlantic stock, but there is no evidence of differentiation within the South Atlantic stock. We looked at size-dependent natural mortality, but not sex-specific. We had the female maturity sector. We had female weight used as a proxy for reproductive potential.

We have a separate growth curve for each sex, which is corrected for the size limit. The upper right graph is for males; the middle graph is for females. Then we have another growth curve that is fishery-specific, and that was estimated external to the model for scaled landings. The natural mortality curve that was used for the base run is the black line. We have age to natural mortality, and the black line is the Lorenzen.

Scaled to the Hoenig point estimate is older age classes. The red is the Gislason M, which is an alternative that was used for sensitivity analysis. For the upper and lower bound adjusted for that scaled Lorenzen are shown here as the blue dotted and the green dashed line. This is a picture of the landings. The commercial removals are a thousand pounds. The red is cast net; the purple is handline; the blue is pound net; and then the majority of the fishery has been from gill nets, which have dropped off since the net ban in Florida.

Here the recreational landings are not thousand pounds; it is numbers. The blue is the recreational landings; the red are the recreational discards; and then we have shrimp bycatch in green. Our indices are the following; the Florida Handline Index starts in '86 and proceeds to the terminal year. The MRFSS Index starts in '81 and goes through the terminal year. The SEAMAP Index for age zeros starts in '89 and goes through the terminal year. All of these indices were standardized using the delta-GLM approach.

There was a SEAMAP Age 1 Index that was recommended at the data workshop for consideration, but the assessment workshop rejected it in favor of focusing on the age zero index. There was an overlap of the age zero/age one index, and it was deemed more appropriate for a presentation later. We used all of the age zeros index for the recruitment index.

Here is a picture of the three indices. MRFSS is in red; the Florida trip ticket is in blue; and then our recruitment index is in green. You can see it is highly variable. There were age compositions available for all fisheries; handline, gill net, pound net, cast net and the general recreational fishery.

Something I wanted to outline for you are some of the SEDAR 17 issues that were addressed in this new benchmark. One major issue with the SEDAR 17 benchmark was the information of shrimp bycatch. The reviewers were concerned that the GLM that was used to calculate or to estimate trip bycatch was inflating the variability of those estimates.

One of the reviewers in particular recommended what they called a ballpark method, which we interpreted as just make it simpler. We went through ways to decide on a simpler method for calculating the bycatch numbers deemed appropriate by the assessment workshop and by the reviewers. Weighting the likelihood, the component was an issue at SEDAR 17.

That method was the method that we have discussed today, and I am sure guys have been discussing for a while. The final problem that was outlined by the reviewers is the fact that the historical recreational data were reconstructed in too arbitrary of a fashion, so that decision was revisited paying particular attention to the comment.

Now I'll go over some of our model assumptions. First for selectivity, we assumed handline and gill net should be logistic selectivity. This was based on our size composition data and also some fishing location information. The pound net, cast net and recreational fisheries were assumed to have dome-shaped selectivity. Our decision for that was based on a catch curve analysis and donation of the size composition for this suite and then also fishing locations.

I have the plot for catch curve if anybody is interested in looking at those, but that was quite a topic of discussion at both the assessment workshop and the review workshop. The shrimp bycatch was assumed to be fully selective at age zero and a small amount of age one fish were caught and passed up as a selectivity.

This was based on the size composition we had for shrimp bycatch and then also bycatch tow speeds in Florida that we think are the older individuals that escaped catch. We had sex-specificity in our selectivity and that was to account for differential growth. For discards, a separate F was estimated for these discards that required the specification of different selectivities for discards, which was largely based on the size limit.

The historical selectivity was maintained from SEDAR 17. Those were age zero, age one; and age two-plus was .05, 0.5 and then fully selected at age two-plus. The difference in selectivity was thought to result from the differential growth between males and females. On the right here you will see a plot by age and length. The red dashed line is males and the solid black line is females. We found a constant C that minimized the squared difference between the von Bert curve where the early ages are applied back to selectivity functions.

I'm not going to go into all of the details of the model. It is all in the report. You all are very familiar with the inner workings of the model. There are a couple of details. Those are two sex models that account for that differential growth. The sex ratio, though, was assumed to be 50/50 at the time of recruitment.

The model was initialized by way of an assumed historical fishing mortality and historical selectivity. That vector was applied to the initial equilibrium age structure. For SEDAR 17 this was a new configuration of BAM that was successfully tested on expected value data with one fishery, and that model structure was maintained for this benchmark.

For recruitment we assumed Beverton-Holt with the SSB computed at the midyear and that shows a product as to the numbers, weight and proportion of females mature. There is a standard lognormal recruitment deviation. And then prior to the initial year of recruitment deviations, the recruitment follows the spawner-recruit curve. And then the MSY benchmarks are from biased-corrected stock-recruit model.

We have an age zero class group and ten-plus age group. Very few individuals were sampled older than ten years old but the observed max is twelve years. The life history characteristics seemed to have saturated by age six for things like maturity and weight at age. Our minimum sample size for composition data is ten fish. That was requested as well at the assessment workshop.

The estimated parameters, we had 410 of those and most of them come from the fishing mortality annual estimates. We had an R0, so steepness was not able to be estimated, and I will go into that. We have our recruitment deviation. We have a different catchability for each abundance index.

Our input data was to the landings, indices and age composition, so we have penalties on selectivity parameters that were required in order to get our selectivities to estimate properly. We had normal priors with a CV of 0.25 for the handline slope, both of the cast net slopes and all of the parameters for the recreational fishery selectivity; and then two parameters from the descending limb of the pound net selectivity; then the prior for two of the parameters from the ascending limb of the pound net selectivity and the slope of the gill net selectivity.

There were a lot of issues with the selectivity parameters for this assessment. We used iterative re-weighting that was described for black sea bass and described for cobia. Notably here, the age composition data are down-weighted quite a bit relative to the indices. I will go on to the results. This is a plot of our fishing mortality by fishery by year.

The gill net fishery was much more active before the gill net ban and now there seems to be more of a distribution of effort and fishing mortality across most of the fishery. The handline is orange; pound net in yellow; gill net in green. Here is a plot of our recruit relative to the Rmsy line at one here by year – it is highly variable – and then our recruitment deviation is on the right panel.

Again, the 2011 estimate is not -- is held true to that line and we have lower than expected recruitment in a couple of places in those years. There is our separate recruit curve on a log scale, and here is our status by year and the spawning stock in metric tons. Our SSBmsy is the green line and our MSST is the purple line. You can see that we're well above both of those and have been for a while.

There is also not overfishing occurring although most of the time series for F over MSY is below the Fmsy line. Here is the table from the report that shows our MSY, MSST, SSBmsy and the terminal status. I'll jump into model diagnostics. First I will start with sensitivities. I have an individual plot for these if you would like to see them, but I thought this bigger plot would suffice for this presentation. Everything else is in the report. As you can see, all of the

sensitivities are in a happy place, they call it, where there is not overfishing and it is not overfished.

All of the sensitivities are consistent in showing that we are not even close to the overfished status or overfishing. For our Monte Carlo Bootstrapping, we did 3,200 runs hoping to retain at least 3,000 and we retained 3,095. These are same processes I defined before, so I'll skip over them. I should describe this a little bit.

The natural mortality that we included in the Monte Carlo, that was also truncated normal with a mean equal to the base value, but we used a CV of 0.54, which was suggested by the assessment workshop panel, which was derived from the natural mortality. There was a special meeting to discuss natural mortality estimations. A report was put out and it was discussed in our report to use an approximated CV of 0.54 when all of the contributing papers were examined.

The review panel for this assessment considered that was too much uncertainty. I will show you the plot for that CV. The discard mortalities were considered uncertain so we assumed a traditional truncated normal based on recommendations from the assessment workshop panel; and then our historical recreational catch was calculated the same way it was for cobia, so we used the same methods to incorporate that uncertainty in our CV that was done for cobia.

Here is a plot of our MCB runs; all our distributions here; the Fmsy distribution, the SSBmsy and the MSY, a thousand pounds. Here is the status uncertainty. This is F over MSY by year. I think there is only one year where this point estimate showed essentially overfishing occurring, but the uncertainty in our estimate showed that – some of the distributions on the MCB runs showed that it is possible that overfishing was occurring.

This is an estimate of B over Bmsy. Again, the spread estimate is well above the lines that would indicate an overfished status. There was a little bit of that density were below the one line, at the Bmsy line. The SSB over SSBmsy density is on top; the SSB over MSST density is in the middle; and at the bottom is F over Fmsy.

Here is the phase plot with the crowded points in the same range plot that I described earlier with a point estimate with the base runs at the middle of that plot. These are retrospective runs. I just plotted this over seven years, and it doesn't show a retrospective pattern to be concerned about. It goes on the order of red in 2010 down to pink in 2006, and this is the SSB over SSBmsy by year. This is the F over Fmsy by year retrospective; the same color pattern and plotting.

We just fixed steepness for this issue because we weren't able to estimate it. Similar to cobia, we had problems with it going towards the upper bound, so used a likelihood profile risk steepness, 0.5 as a relatively flat area of that profile, which is between 0.65 and 0.85 considered as flat or flat projections. It was considered flat if there was less than two units of negative likelihood difference so this was a relatively flat area.

Okay, I'll go ahead and go into projections. The terms of reference for if this stock was not overfished or not experiencing overfishing, we were to project an Fmsy, F current and F target. At the time the review occurred, there was not an F target provided, so we have an Fmsy and F current.

The methodology is similar to what was done for cobia but without the adjustment for terminal recruitment. I used a ten-year projection with those two scenarios and the regulations considered to begin in 2013. That is the first year we think management could react to the assessment results. So at  $F_{msy}$  these are the projections; 2012 maintain current fishing conditions and then increase to  $F_{msy}$ . You can see that the projected spawning stock goes to that solid line that indicates the MSY value for the recruitment.

I ran those projected landings out farther and it does seem to approach MSY, but not for the ten-year time parameters. And then for  $F$  current, which current is defined as a geometric mean of 2009, 2010 and 2011, we have this projection where it is actually less than  $F_{msy}$ . We projected spawning stock is above  $SSB_{msy}$ , and the projected landings are below MSY.

Since it was a benchmark and the terms of reference asked for – I don't remember right off hand if it asked for ASPIC or they for another model, or which one it was, but we ran ASPIC for comparison. I hope you're all familiar with ASPIC, but it is the aggregated stock production model. We used total removals; landings for commercial and recreational. We had discards and the bycatch from the shrimp trawls.

We ran several sensitivity indices to calculate confidence intervals to be sure that we were converging on the same results, and we were. Here is the 80 percent confidence interval for the thousand bootstrap runs and our  $B$  over  $B_{msy}$  by year or the  $F$  over  $F_{msy}$ . That's the rest of the slides. Okay, we are in the process of modifying our P-star codes so we will be able to run P-stars. You will be able to give us a value based on your spreadsheet calculations and then we will be able to run those for you.

DR. BARBIERI: Great, thank you, Katie. Are there any questions for Katie regarding the Spanish Mackerel Assessment?

DR. BUCKEL: Yes, Katie, just one quick question on the weighting. You talked about this much earlier in the presentation, but you had mentioned that the age was down-weighted in this assessment, and I was just curious why that was. Did something come out of the data workshop that you didn't have as much confidence or why was that done?

MS. ANDREWS: Well, that wasn't an arbitrary choice. That was what was calculated using Francis' method. As we were driving the SPNR towards one, the age composition just happened to be down-weighted quite a bit from – that was the outcome of that method. It wasn't a choice that anybody made; that is just what happened to be specific.

DR. BARBIERI: Are there any other questions or comments for Katie? Katie, did you say anything regarding the P-star projections?

MS. ANDREWS: I said it really fast at the end; you didn't hear? (Laughter) I didn't have any trouble getting the P-star code appropriate to this. It is a different type of projection code that they are not tight, but it is a change to the projection codes that were sent out for other species because it is that specific. I can see those as changing priorities according to what everybody is telling us, so those P-stars got put ahead of these P-stars. That is my next thing to work on after this presentation is to get that P-star code running for you; and when you get the P-star values, then I will get those to you.

DR. BARBIERI: Okay, it sounds good. Are there any other questions or comments for Katie or are we ready to go through our action items in our overview document? Then Action Item Number 1, consider whether the assessment is adequate for providing management advice. I see a lot of nodding heads; and we do have a consensus that this stock assessment represents the best available science and the SSC recommends it be used for providing management advice to the council.

The next item, we need to provide fishing level recommendations for Spanish mackerel consistent with the ABC Control Rule, so we're going to go and apply our ABC Control Rule similar to what we did for cobia. Assessment information; quantitative assessment provides estimate of exploitation and biomass that includes MSY-derived benchmarks versus a reliable measure of exploitation or biomass, but no MSY benchmarks, proxy reference points.

I guess here we have pretty much the same situation I remember Katie mentioning to cobia where we had steepness fixed at 7.5 and that seems to be a reasonable choice. There were no negative comments or concerns from the CIE reviewers or the SSC members of the review panel. If there is no concern from the committee, I think to be consistent with what we did the last time for cobia, we will go with Tier Number 2.

We're going to accept those MSY estimates from the fixed steepness but assign a little penalty there of 2.5 percent since steepness was not really estimated. Dimension 2; uncertainty characterization, I think this is very similar to what we saw for cobia and for black sea bass; and it is very high characterization of uncertainty, which carried forward propagated a number of factors into the uncertainty characterization. That would be a 2.5 percent penalty.

And then stock status is neither overfished nor overfishing. Again, I think I would have to look at the status determination criteria table to see whether we may be in close proximity to the benchmark status, but my recollection is that we are not –

DR. BELCHER: It is 2.29 for the spawning stock and 0.521 for the fishing level.

DR. BARBIERI: Yes, so we are not on the edge there, so that would go for Tier 1, right, for stock status and no penalty; and then the ever-famous PSA risk analysis; and Spanish was characterized as medium the last time and it shouldn't have changed. The review panel also agreed with that assessment, so we have consistency there and we apply a 5 percent penalty; and we have a total adjustment of 10 percent and a P-star, Katie, of 0.4 or 40 percent.

MS. ANDREWS: Okay, so a P-star of 0.4 and also 0.5 for the OFL?

DR. BARBIERI: Right; and we're going to use the projections, that 0.5 P-star for the OFL.

DR. BELCHER: Luiz, what were the penalties again? I had it at 7.5. I had a zero, a 2.5, a zero and a five; did I miss something or did I have one –

DR. BARBIERI: No.

DR. ERRIGO: The assessment information; that was decided to be Tier 2 because the steepness was fixed.

DR. BARBIERI: Yes.

DR. BELCHER: Okay, I missed that.

DR. BARBIERI: Yes, similar to what we had done for cobia.

DR. REICHERT: Unless I missed something, the review panel said the steepness was freely estimated?

MS. ANDREWS: No, the steepness was fixed.

DR. REICHERT: Okay, because that is in the review panel report, so that may have been an error on the review panel's –

MS. ANDREWS: There were sensitivities that allowed for steepness to be freely estimated but not the base run, and that was sort of by discussion.

DR. BARBIERI: We need to determine the time horizon for the projections they would like to have. Yes, five sounds good, Katie?

MS. ANDREWS: Yes; five years including the year where management takes action or within the initialization year? I think for cobia the first year was the initialization and five years after that?

DR. BARBIERI: Yes, that would be better. That would be great, Katie.

MS. ANDREWS: Okay, Kevin told me for cobia it was an initialization year and then four years after that; so five years total.

DR. BARBIERI: That is fine as well. We are going to probably revisit this and be discussing that in the next couple of years, I'm sure. Given the stock status, I'm not too concerned. I don't see any major concerns from the committee. I think the way that you have structured it there would be perfectly suitable for our needs.

MS. ANDREWS: Okay, it is important for me. Okay, I will do the same as we did for cobia.

DR. BARBIERI: I think that completes our action items for this assessment review. Are there any other questions, issues or comments that committee members would have for Katie regarding the Spanish Mackerel Assessment? Ben.

MR. HARTIG: Well, as far as the Spanish Mackerel Assessment, it is a great assessment and thanks, Katie. But when go down these mathematical routes to define these things, like we did in ORCS and like we did in your PSA analysis, everyone is going to moderate or medium. I mean, in order to get some space between some of these, really you need to go into that medium category or maybe even in the high or low and have some space between those. Otherwise,



you're going to be butting heads with life history characteristics that are not that similar in the same category; and down the line I hope you guys would look at that.

DR. BARBIERI: I think that is an excellent suggestion because it is something we have been using for our PSA – to inform our PSA decisions, it is something that we have been using as a placeholder until we can have actually something done specifically for our stocks and our fisheries in the southeast.

That is a type of process that is better informed if you have a workshop-type setting like we had for the ORCS, and it is something that we can perhaps suggest that we develop for the future. Are there any other questions or comments or suggestions? Is there anything for Katie? Katie, thanks again and congratulations on a great assessment.

Personally I have to say I think you guys make our job here easier by providing a number of diagnostics in the documentation of the assessment. You have expanded a number of diagnostics. I am thinking about over the last three to five years you have expanded a number of diagnostics that you put in front of us for the assessment, and that helps us evaluate the assessment more thoroughly.

You have different ways of graphing things and putting that in front of us in a way that is easy to capture what is going on and I think that really facilitates the process, especially when we have a lot of assessments to review. We know that cobia and Spanish mackerel are not easy assessments to handle. I think you and Kevin did a great job; so thanks again. Unless there are any other questions for Katie, I think she and Kevin and the Beaufort Team are off the hook.

DR. WILLIAMS: Luis, I would like to make one comment. I was just like to thank the council staff for accommodating us on this webinar. I know it was kind of last minute and more than ideal in some ways, but I would hope that everybody has recognized that despite a few real technical glitches we had, it has actually worked out quite well.

I think it's possible for the future, and I would highlight that one of the advantages that may not have been apparent this time but probably could be apparent in future webinars like this is that it enables all of us in Beaufort here to sit in on these and then you can get the comments from many of us, which I think is valuable because the way we work up here is very much like a group and we make a lot of decisions as a group, and it is good to handle all of our insights.

When we sit in as just one person down at the SSC, they may not be able to answer all the questions you guys have; but having the whole Beaufort team available to you I think is very valuable and with our current budget situation it is pretty much prohibitive that we could send really more than one or two people down to any of these meetings. Of course, this year we couldn't send anybody because of budget constraints. I appreciate the accommodation and I hope everybody would recognize that this actually might be a good thing for the future.

DR. BARBIERI: Yes, Erik, I agree. Actually, I was thinking about that during the lunch break after the black sea bass that it was good to have all of you guys there. It is just sometimes when we have those assessment webinars that you have the Beaufort Group. There are usually four or five or six of you there in the room and everybody chimes in at whatever time if you have

information, you have that collective group there that it is more input and more discussion than just having the lead analyst for that specific assessment.

I have to agree; I think with the exception of those initial little technical difficulties, it worked really well and I think that we actually got a better discussion than we would have otherwise. All right, guys, thank you.

DR. BERKSON: I just wanted to make a comment on the presentations. I didn't want to contradict them while they were on the line, because they worked so hard on this thing and worked so hard on the presentations, but I really think it works better when you have an on-site presentation, when the person giving the assessment is actually here talking with us and it is better than having them over a phone line or over a webinar.

Now, the best scenario would be having the entire Beaufort Group here. If that can't happen, having the presenter here and having the others on the phone; I think that is the next best scenario. Having everybody via phone or webinar, it may be what we need to do in terms of cost, but I don't consider it ideal.

DR. BARBIERI: Yes; ideally that would be the setup.

DR. GRIMES: I wanted to ask you a question about the MRAG's PSA analysis. I mean this is based upon a workshop that they had and we're using the results of that workshop, and so this kind of a more tailored analysis of that methodology for the South Atlantic Bight has not been done?

DR. BARBIERI: No, it hasn't. We had actually requested way back when – I'm drawing from memory here, but I remember that we had requested at some point; that we sent a formal letter to the center requesting that the PSA analysis be done for South Atlantic stocks. But at that point the center responded that given constraints in the number of staff and the workload and the number of assessments that they had to handle, that producing those PSA scores was not really possible. We have the methodologies identified and the committee has evaluated different methods – a little variation on the theme on how to come up with a PSA; but we have not had it applied to southeast stocks and southeast fisheries specifically. It just hasn't been done. Neither the NMFS nor the MRAG has been applied.

MR. CARMICHAEL: The MRAG did a bunch of work back in 2009 for Gulf stock – I think they had a grant or something – and they went ahead and they did South Atlantic stocks as well and they added it in there so we have that. Then NMFS had a working group that followed a similar process.

As I recall the only difference between NMFS and the MRAG group was how they dealt with uncertainties. The NMFS Group I think treated uncertainties as unknowns, or treated unknowns as unknowns. The MRAG tended to treat unknowns with a very conservative; like if they were unknown, they considered it risky.

That tended to make the scores come out a little different. We sort of had those two competing runs, and I think at the time the MRAG one was farther along. I remember you guys getting presentations on both maybe when we did the original ABC workshop. The NMFS one maybe

wasn't as far along, and that is why you went with the MRAG one. I think it certainly seems – you know, that was 2009 when the report was published so it has been a while.

We've changed some of these stocks; and certainly change in the boundaries of things like cobia clearly had a big impact on its life history, because that northern stock just seemed to be kind of different. Maybe we're at the point of reconsidering some of that and going back through those scores and coming up with our own evaluation apriori and not kind of find ourselves as we were at this meeting, kind of in a hole.

DR. CROSSON: Just because I e-mailed him on something else, Wesley Patrick up at headquarters was the lead author. I can't remember if it was in a peer-reviewed journal but was a technical memo, but one or the other. There were about seven or eight NMFS scientists from the different – Fish Bulletin; okay.

DR. BARBIERI: It is something I think we would benefit by revisiting at some point if at all possible. The points that Carolyn brought up earlier I think are relevant in terms of us looking at the language. Again as John pointed out, what we did back in 2009 and then tried to adjust a little bit in 2010; and here we are a few years later having already applied a control rule a few times; it would be good for us to revisit that and see what might be modifications there that we might suggest to the council in terms of improving and refining what is defined in the control rule.

Now that we've got the application of the ORCS process completed; I mean it is something that we might be considering discussing. I don't know if that would fit in October, that we would have time for that but revisions to the ABC Control Rule – and the way that the process works is the SSC provides a number of revisions and suggestions and that goes to the council for their evaluation and final approval, and that gets incorporated into the final process. We can shoot for October for that, if there is time on the agenda. Otherwise, we'll just go to April next year.

DR. BELCHER: I'm asking a question only because I e-mailed John about the cobia. I wasn't aware until talking with Kari about the fact that there is actually an add-in coming from the Gulf's ABC for the full South Atlantic; is that correct? Our distinction of ABC is for a sub-portion of the entire coastline; is that something we should be talking about or not talking about? Because, like I said, when I looked at the difference between what we had put forward from our average landings and what the assessment came up, a little bit of a startled factor there. I don't know if anybody else was aware, but is it worthwhile to talk about it just at least put it out there?

DR. BARBIERI: I was aware of that because I chaired the Review Workshop for the Gulf cobia and Spanish mackerel. At the end of that, we brought that before the SSC, and there was that discussion about the fact that for the Gulf SSC to look at an assessment that actually wrapped around the Florida peninsula and went up to the Georgia border.

Everybody felt like this is different than what we are used to seeing. My understanding is that because the assessment was focused on that portion of the distributional range of the stock within those boundaries that were defined by the assessment; that those measures of productivity and outputs in terms of MSY and the fishing mortality rate are applicable to that portion.

Now I think it would be either the regional office working with both councils that we will apportion those ABC recommendations to different parts of the range there in terms of how the actual TACs are going to be apportioned to the fleets in different areas. That was my understanding.

DR. BELCHER: But I guess my point was that technically ABC is going to be higher than what we are determining it is from a P-star, because our OFL was 800 and 800,000 pounds. Like I said, based on average landings, we were around 1.5 million. Kari had indicated that I guess the proposals are like – Boyles' Law is one of the ones considered.

I don't remember all the details, but there are about five or six different scenarios of how that is going to be allocated; so is an ABC just going to be a straightforward add-in or are they going to be managed as separate components? Just a point of clarification, because like I said when I saw the difference, someone else is going to jump on South Atlantic just went from 1.5 to 800 and 800,000, but yet it is really not 800 and 800,000 because there is another component to it.

DR. BARBIERI: Right; and my understanding is these are like issues that the councils work with the regional office and actually that management portion of the thing, since we now have the biological outputs given the assessment results, and it might be discussed at the June council meeting.

DR. DUVAL: There is a cobia action that was added back in and there is – as a part of that, as Carolyn said, there are a variety of alternatives for how to determine that split for the Gulf pseudo South Atlantic portion that covers the Florida East Coast.

The timeframe right now is for the council to discuss that in June and choose preferreds, and then we'll presumably approve that to go out for public comment in August, but final decisions will be made at the September council meeting.

DR. BELCHER: Yes, I guess I just thought it seemed odd, because it is basically an ABC distinguishment that the SSC at least on this side is not involved in setting that ABC. I am just curious how that is working, as to how our involvement is coming in on that.

MR. CARMICHAEL: I guess we don't really know. We have to see how the councils are going to work it out. I think you guys did the right thing; you gave the recommendation for the South Atlantic portion of stock, and then there will be a portion of the Gulf stock that maybe falls into the South Atlantic jurisdiction and the councils have to work it out.

DR. BARBIERI: And with the king mackerel?

DR. BELCHER: Yes, but we haven't even visited that really; because king mackerel; we haven't really dealt with that either because that is done as a joint assessment and not as two separate assessments.

DR. BARBIERI: I'm trying to remember. I think we looked at that a while back in 2009, or maybe not.

DR. BELCHER: Yes, but they are done jointly where this is actually two independent assessments is what I'm saying. Like I said, that was just a point of clarification, because it is kind of –

MR. CARMICHAEL: Watch for your council committee reports from June and all your questions will be answered; or maybe June and September and December.

DR. DUVAL: You're awfully optimistic.

MR. CARMICHAEL: Okay here we go again with a little modification. One of the things we ask you to do every year is to look at the council's research and monitoring priorities, and then this is presented to the council in June, and then they submit them to the agency for consideration as part of one of the requirements that came with the reauthorization of the Magnuson Act.

You have a document here; it is Attachment 12. You've seen it a number of years now. It is very similar to what you have seen in the past. There are a few things that are slightly modified or changed or added, and those are highlighted in yellow and a number of things that are important for 2013 highlighted at the top.

Then it goes down into a run of the different types of priorities the council has getting reports on the fisheries, getting adequate fishery and population monitoring, data collection issues, evaluating MPAs, developing population approaches for dealing with the stocks that last time you identified as special needs, those that have particular monitoring issues about them.

Then there is a listing of the basic data that is needed by fishery. Then we get down into the priority stocks, and this is some of the things that led to discussion a bit at the last meeting. We refine this a bit and that is reflected here. You have the primary species, secondary species, and then a list that you noted as having special needs. With that, Luiz, I open it up for any discussions or questions.

DR. BARBIERI: We are open for discussion, input, comments, or suggestions from the committee. Well, to get the ball rolling – and I don't mean to sound like a contrarian here – I thought that the last time that we reviewed this we had discussed the possibility of getting some kind of an update from the center regarding progress on some of these items.

The fact is that this list is very inclusive, but it turns into something that is motherhood and apple pie; everything plus the kitchen sink is in there. It would be helpful for us to see since this list has been generated what has been achieved. Having 20 priorities, it is difficult for us to evaluate how those things are going to be progressing according to any kind of a timetable. Would there be anything there for us?

MR. CARMICHAEL: Well, I think we've captured or at least tried to in that top bullet in the part that is highlighted about asking that NMFS provide – and basically the SAFE reports address what you're talking about, which should include stock status, the landings' results and such, as well as the results of monitoring.

I think maybe add to that something that is more clear about what has been done as a result of these plans. I know that the council, in submitting this report last year, I believe, made an issue

about that as well; that in submitting the report they would also like to receive something back from the center that tells them what has happened, what happens to the report each year, how has it affected the priorities and have they led to any new research, and could we find out about it.

DR. BARBIERI: Are there any additional questions or comments?

DR. GRIMES: I was looking for somewhere here it seems like with respect to the coastal pelagic fisheries, like king mackerel in particular, something the center has never done, and maybe it should wait to call it out until after the Assessment 38 or whatever it was; but they never monitored mixing rates of Gulf and South Atlantic king mackerel, not on a routine basis.

I mean, they publish some research on it once in a while, but you might stick that in here and tell them that they ought to monitor the stocks and the mixing rates in southeast Florida, especially in the wintertime. It is an easily doable thing; stock boundaries and mixing rates. They need to monitor the boundaries, but mixing rates.

MR. CARMICHAEL: I think, Church, we'll probably add that here in this list here where we have seven things highlighted. We can add an item about that right here.

DR. BELCHER: Just a quick point of clarification; in Appendix 2, we have Goliath grouper listed under two items there. I wanted to check on – because one requires fishery-dependent measures, which I would assume with Goliath being prohibited that is not necessarily going to be. Yes, it is in the secondary data and it is supposed –

MR. CARMICHAEL: Yes I think you guys wanted it in the special needs, and I just apparently didn't see to delete it under secondary. Do you believe it belongs in the special needs? I think that is where it was. Okay.

DR. BUCKEL: I agree this is very complete. I don't have any additions to it. One question I have for council staff or maybe others in the room is how the research priorities that are listed here, how they get added to the request for proposals and various NOAA grant programs. I think it was last year, I can't remember if it was MARFIN or a Cooperative Research Program, but I expected there would be something in there about evaluating the MPA effectiveness in U.S. Southeast.

It was in there for the Gulf, but it wasn't for the U.S. Southeast. I think similar – along the lines of ecosystem-based research, that priority research was in MARFIN or CRP for the Gulf and not for the U.S. Southeast. I'm not sure how these research priorities get translated into requests for proposals. There is obviously way too much here, but maybe the council may need help with prioritizing these for going into those requests for proposals; anyway, just a question on that.

DR. LARKIN: Well, I think that is a good example. I would like to see that one in there, but I think we should be more specific about what we're asking for; because just to say more research on the effectiveness, to me I would like information on the socio-economic part of it as well. I think some of those, even in the highlighted section, I don't even know what they mean.

There is a thing about improving recreational – I don't know if we can scroll back up; like the third one, it says improve recreational fisheries data collection with – I'm not sure what we're

asking for in addition. What is the specific piece of additional information that people need, because the MRIP program does collect by species; so if there is something wrong with that or something specific. There are a couple of them in there that are I think a little too general to provide guidance on going that next step for an RFP.

DR. CROSSON: As a member of the Special Science Research Group at the Science Center, I know that we get asked by the leadership every year what are some of the higher priority data collections that we could possibly ask for in an RFP. I've never seen this document come back down from the leadership and say, oh, by the way the SSC recommended this. I'm not sure where it goes. I think it is a good question.

DR. BARBIERI: When you read this – and we have a few times already – it looks like something strategic in nature. It is helpful to set it sort of like a long-term vision for where we want research and monitoring in the South Atlantic to be, but it doesn't include a short-term, more operational component. I think that is what Sherry was referring to; a little more detail saying, okay, over the next three years or five years, here are some specific points where operationally things can be improved to address some council needs that are more immediate than this long-term vision.

MR. CARMICHAEL: I would say this is your input on this; so anything that you wish to add that adds such specificity, we will be more than glad to include.

DR. BARBIERI: Well, John, to that point; perhaps you could distribute at the end of the meeting – as we prepare our meeting report, you could distribute a Word version of this so folks can go in and add some additional, more specific issues or species or topics that they feel should be included.

MR. CARMICHAEL: There are a lot of specifics down here in the other sections. The top piece is just intended to highlight the big picture type issues that are going on. For example, that recreational issue; it is focusing on continuing with the path of MRIP, improving the data collection, and highlighting that one of the issues in the Southeast is the high PSEs.

Snapper grouper stocks almost across the board suffer from very high PSEs. We don't necessarily know how to tell the MRIP people how to reduce the PSEs. I think we all know that more sampling equals lower PSEs, but more sampling costs money. I think in terms of us coming in and doing that; we know that the program is run at the national level, and the states have a really big role in helping that out in groups like ACCSP increasing the resources to it.

I don't know that we have the ability to come in and say this is exactly what you should do in this circumstance; but we have tried to get to that more specifics in the next section where we list specific needs for different species. Then down in the bottom where we list the needs for a different number of fisheries, and the recreational is listed down there with the kind of information that is needed.

This may be a place to bring in kind of extra details that will be helpful. But right now, as you can see in the private, there is stuff about getting per year and per trip and trying to get some supplements for discards and whatnot. If there are more details to add there, this is probably the place to put it.

DR. BARBIERI: We have noted our comments under this topic for our summary document. Staff will distribute a Word version of this for additional suggestions or edits, and we'll proceed accordingly. Now, the council will review these recommendations and approve in June, John, to send to the center.

MR. CARMICHAEL: Yes.

DR. BARBIERI: Okay, any other comments, questions regarding this agenda item? Should we go ahead? Okay the next agenda item, assessment peer review process; you may remember that we discussed this issue at the last meeting with the idea of generating some guidelines and structured procedures for submission of stock assessments and other analytical or scientific products for review by the SSC.

A subcommittee was formed. Steve Cadrin is the Chair of that subcommittee. Unfortunately, Steve had another commitment this week and couldn't be here. I don't know if Jim or some other subcommittee member is ready to at least present like a status report on where we are, level of completion of this task; whether we are ready for primetime now, or if we are going to just postpone this for our next meeting or somewhere in between.

DR. BERKSON: Well, I am not speaking for the group on this one and can't speak for the group on this, because the group did not meet since that last SSC meeting. We didn't have any calls or anything else. If my memory is correct, and anyone can jump in here, we discussed this out in the lounge area after the meeting one day.

Steve put together a quick slide show, a PowerPoint presentation with some of his initial ideas. I think he came back and presented that, which was just a very, very general outline. We didn't do anything beyond that and we don't have a process in place or even close to one that I feel like we agreed to.

Steve sent out an e-mail earlier, I guess it was last week, with his recollection as to a process that was agreed upon. I don't have any record of that and don't have any memory that we agreed on that. I think we're sort of starting from scratch. I think this needs to be a priority and we really need to get going on this. I had hoped we would have made more progress, but I am as much at fault as everybody else, because everyone has been so busy. Like I said; please correct me.

DR. GRIMES: Steve produced a draft document which he sent around at least, which looked pretty good to me. I went over it and put stuff in it and tracked changes for somebody to consider. Are we supposed to send those back to Steve for him to – I mean that would be one way to move ahead at least for the people on the committee to comment in detail about how they liked it, and what they think ought to be added or admitted or whatever.

DR. BERKSON: Yes, I had some significant comments that I wanted to add to that document. I think that document is a ways away from being a consensus of our committee, and it is a ways away from being at a point where we would present it to the full SSC. I think if we got the charge renewed to us with a little bit more oomph, but I think we can make progress on it.



DR. BARBIERI: Well, our council liaison is ready to make a comment to this point, so that should encourage the committee to see the urgency of this topic.

DR. DUVAL: I was just going to say I'm your oomph. We had quite an extensive discussion about this at the December council meeting. I think Luiz was there for part of it, so we talked about this in the SEDAR Committee. This should definitely be a priority. I mean the council is very eager to receive a draft of this document.

I think as folks may or may not be aware, but we do have some legal actions that have been pending. This process to help us deal with third party assessments in an organized fashion that you all can be satisfied with is going to be really important in order for us to move forward on things like that.

I am certainly emphasizing the priority it is for the council. I know everyone is strapped and keeping their noses above water, but I encourage you all to make this a priority. I think we would love to hear potentially an update at the June council meeting, which I assume Dr. Barbieri will be attending.

MR. CUPKA: I just would like to reiterate what Michelle said. We do have legal action pending on this, and we're kind of waiting for this issue to be resolved. Certainly, in the council's mind it is very high priority and we look forward to receiving some input from the SSC. Again, we would like to see some action on this. It is important from a council perspective.

DR. CROSSON: I guess just to add if there is anybody else who wants to be part of this, it would probably be a good time right now. I'm sorry, if anybody else wants to be part of this subcommittee, obviously since we haven't really done much since we were initially charged with this, it would probably be a good option to join now.

DR. BERKSON: I think one of the major issues that remains, Luiz, involves at what level oversight has to take place; can it be done entirely at the completion of an assessment or does it need to be done throughout? I am not sure if that is something we might want to discuss with the full SSC now to get a little guidance before we go back into our subcommittee.

If you want the subcommittee to hash that out a little bit first and then bring it back to the SSC, I've got very strong feelings about it and I think, for instance, Steve feels the opposite on that. I am sure we can resolve it, but any guidance we can get from SSC members might be beneficial. I would be happy to discuss it more.

DR. BARBIERI: Yes, and I think that we do have the time at this meeting. I just received a suggestion here from Vice-Chairman Reichert actually that we start a discussion. I agree; I feel that having seen that traffic of e-mails that the subcommittee had exchanged over the last few weeks; I noticed that there were some strong points of disagreement that may not be fully resolved at that subcommittee level.

It could be, but I think that it could help move things forward if we get the full committee to provide their thoughts and input on this issue. I think fundamentally what Jim had issues with in terms of what is outlined there in that report, the idea that the SSC Committee would be

excepting third party assessments that have been already fully completed without any SSC involvement during the process or some kind of SEDAR-like process that would allow evaluation of the data, the model development or all the other issues during the process, the equivalent of a CIE desk review, so to speak, where we would get the ready product and review the assessment or the analytical report after the fact. This is an important issue that we had to some extent tried to get addressed in that document. It would be great to get input from the committee today, if at all possible, on this topic.

DR. BERKSON: I know we talked about it at the last SSC meeting, also, this very point. To make my argument, I'll try to do it briefly. If we're talking about assessments, some assessments are so complex that you really can't do a thorough review after the fact. There are so many decisions that are made by the stock assessment scientists along the way in terms of what data to use, what not to use, what assumptions to be made, what models are going to be used, how to present the results, the inferences you get from the results; just over and over and over again.

If you are talking about the Beaufort Assessment Model, you are talking about stock synthesis or something like that; there is a reason why we have the SEDAR process, and there is a reason why we have asked for SSC involvement every step along the way of the SEDAR process, and that is so that historical knowledge can be brought into it.

That is so that SSC members can be a part of the process and communicate results back to the full SSC. It is part of the checks and balances. To say that for third party assessments that doesn't have to happen, we can know exactly what happened after the fact by looking at a report; that doesn't make sense to me.

Now some assessments are simple enough both in terms of the data as well as the assessment tools themselves that they are more likely to be able to be reviewed after the fact. For instance, the kind of assessments that my students worked on a couple summers ago where we were talking about a time series of catch, one index of abundance, using a production model or a catch curve; that is pretty standard stuff.

That is very straightforward, and I don't know that there needs to be an SSC member looking over the shoulder every step of the way on that, but clearly I think there has to be some involvement along the way with the more complex models. My advice is – and this is the same advice I presented at the last meeting – was that we develop some sort of expert system or list of rules, where given a complexity in the data, if you know what data you are going to be working with and how complex it is, and the kind of model you're working with and how complex it is; there would be a set of rules as to when the SSC has to be involved.

That would be clearly stated so that if an assessment was brought to us after the fact and hadn't followed those rules, the SSC wouldn't be able to review it because we hadn't been involved as specified. That was my recommendation at the time and I still haven't heard an argument not to do it that way.

DR. BELCHER: I don't remember if this was something that we had discussed at the last meeting or not, but the outlines of our terms of reference; I mean, with everything we do with the SEDAR process, the terms of reference are pretty much what hold the workshops true to the

course, the assessment true to the course; and making sure that I would think on the front end that they have an available term of reference very similar to the same rigor that we require of everyone else, I think would at least help some of those outside folks keep track.

To me SSC involvement, if it is at all possible, but I think the main thing of what we have always expected is the terms of reference are very clear to the point and hold us to task. We can actually look through; and if the assessment doesn't meet the terms of reference, we've had that situation with our own assessments as to say whether or not we think it is a problem or not. But I think those are really what helped pinion a lot of the SEDAR process down is the terms of reference.

DR. GRIMES: I'm going to ask Jim a question. When you say SSC involvement, what exactly do you mean, like SEDAR where we would actually be involved in the doing of the assessment, reviewing the assessment, reviewing the data? I mean, if it is done by an outside individual, for example, it is hard to imagine that they would have it structured in the same way or structured in the same way that a formal SEDAR thing is done where you had meetings and so on that SSC members could attend and do the things you are talking about. How exactly would you see that happening?

DR. BERKSON: I think there are a lot of creative ways it can be done. I think the important point is that there needs to be oversight along the way throughout the process when these critical decisions are being made; for instance, what data is being used, what data isn't being used before you get to the point that you are running models and deciding what your base model is going to be, and which model is appropriate.

We really should be seeing for these complex assessments what data is in and what data is out and why. The next step might be learning what model is being used, and why is it being used, or what models are being used and being provided the justification behind that. If there are any wrong turns or tangents that are being done that are obvious, that we can say that doesn't make a lot of sense; you may want to double back; here are some other ideas; so we aren't hit with a 450-page document or something of that complexity all at once at the end.

In those documents you don't get every decision that is made along the way, so that we can hear those decisions along the way and discuss them. You could easily do it through a webinar. You could do it through a series of conference calls. If they are planned effectively, I think that kind of oversight can be provided. The center can be included on that potentially. But, once again, you don't let these things take off and have a life all their own and get finished without any kind of understanding as to what is happening.

DR. BARBIERI: Michelle, before you make your comment, let me make a couple of suggestions here. I see Jim's point, and I do feel that those are important points for us to take into account. However, I think that in the interest of better serving the council, we might have to be a little more flexible in the way that we look at this issue.

Perhaps if we develop a set of guidelines that outline things to be reviewed like a tier or categorical approach where we have good, better and best where – of course, we want everybody to submit the best assessment that addresses all of those issues fully; but in some instances that may be complicated by a whole number of different factors.

Perhaps the third party that is submitting that assessment – conducting and submitting the assessment, cannot meet all of those requirements, like I guess what Church was referring to, but they can meet a few of those. There will be instances when they may not be able to meet at all, and that will be a desk review type. I think that outlining what those criteria are for those three levels would be important.

I think we should do this ahead of time so these third party organizations, institutions, individuals and all are aware of what the process is so they can engage early and do it for that best kind of way. But, still, I feel that reviewing assessments is the nuts and bolts of what we do. In the interest of providing that review process to the council, I think that we should accept them.

Now, not having had all the issues that you pointed out integrated into the process might give us more questions about how the process was conducted; may not allow us to address some of the choices made, parameter choices or how issues were handled; we may be more critical of the assessment, perhaps.

We may not be able to accept the analysis or the many outputs and results of the assessments as fully credible or scientifically valid, because we don't have all the moving pieces that we would have to have to make a full judgment. I do feel that having that more inclusive process where we review documents that are submitted to the council and the council needs the SSC to provide scientific input.

DR. DUVAL: This is really more of a question of ignorance, I guess. Florida has conducted – they did the yellowtail snapper assessment and mutton snapper and several others. How were those assessments run? It was through the SEDAR process so there was a data workshop and assessment workshop. I am assuming that the same types of protocols as for what we did for blueline tilefish and gray triggerfish last month; it is a similar set of protocols?

DR. BARBIERI: Yes and no. It depends on the species, the stock or the situation. We communicate constantly with the SEDAR folks, and we discuss how this process is going to be handled. In some situations, in the ideal situations we have had actually data assessment and review workshops. All of the assessments that we conduct under the SEDAR process or for reef fisheries or council- managed fisheries have a CIE review if they are a benchmark, and they are processed through the SEDAR process.

Now in some situations – here is an example – yellowtail snapper, because we felt the yellowtail snapper was not a species that was contentious and perhaps the ability to get stakeholder input was limited; we basically did that assessment as a benchmark assessment in house. There was no data workshop. There was no assessment workshop.

Actually by the time that we – this was SEDAR 23, I guess, or 27, perhaps. Anyway, by the time that we were supposed to get to the review workshop – the CIE review was supposed to be jointly with Gulf menhaden – we realized we were having a horrible residual pattern problem, we cannot resolve this and we are not going to be ready for this assessment to be reviewed.

We withdrew the assessment from that review process and then fixed those problems and sent that assessment to CIE for a three-desk review process. The assessment came to the SSC with

the CIE review report. That is what I am saying. When we did the benchmark mutton, we had all the workshops. When we did Goliath grouper and black grouper, we had all the workshops. But for some we didn't, although we have been communicating with SEDAR throughout the whole process.

DR. BERKSON: Clearly, the council will benefit from third party assessments in some cases, specific cases. I guess the argument I'm making is that the council deserves the same level of review and the same quality advice that we would give them from a SEDAR review, typical of a SEDAR review for a third party review; if not even a higher standard, because there isn't the transparency.

There isn't the level of involvement from stakeholders, council members, everyone else every step along the way. To say in those conditions where there hasn't been involvement we can have a less thorough review and less involvement, I would feel extremely uncomfortable providing that kind of review to council. I think it has to be comparable.

DR. BELCHER: I was going to basically almost say that exact same comment, because what I envision from a third party can be anything from similar to a 400-plus-page document like what we're used to seeing to a basically boiled-down version of a manuscript that is being submitted to a journal, which in all of that there are a lot of things that we're missing.

All of that pieces of transparency and selling that assessment to the fishermen, when you see the rigor to which we pull it all apart, provide all of that information on how we've looked at Piece 1, Piece 2, Piece 3, before moving into the next step of the process; that is where again I keep coming to the TORs.

If we can do the TORs or the report formats in similar to how we do ours, to at least even if they can't address it, they speak to why they can't address it. It is at least getting us in a similar funnel and format that we're used to seeing, and we can still have the review however we so choose to see it.

I think that is part of the problem is it is going to be an issue of you are going to see the gamut from comprehensive to the point of ad nauseam detail to the I am going to try to get it published in a journal and I can only keep it to five or six pages of manuscript. I think that is the main thing is how do you keep it to that transparency level of detail that we are used to seeing? I still come back to TORs and report format.

MR. CUPKA: First of all, let me say that I don't think there needs to be any debate on whether there should be a process. The council has asked this group to come up with a process. We know there is interest in doing these things, and we expect that we are going to get more of them in the future, but it is a blank page right now.

What we want is a process that will let people know beforehand exactly what they have to do to meet the requirements of this body for that assessment to be reviewed. We need to let people know that. If they don't meet certain criteria that are outlined in the process, then it won't be reviewed and won't be utilized, but we need to specifically spell out what it is they need to do.

Certainly, we don't want somebody coming in after they've done it with no oversight or no consideration of the process and just hand us a five-page manuscript and say here it is. I mean clearly that is not going to work, but what will work needs to be spelled out so the people know beforehand what they have to meet in terms of the process in order for you all to review it and for it to be considered by the council.

Again, we are in a situation where we have gotten one. Unfortunately, they weren't able to follow the process, because we don't have a process. We're having to deal with that kind of separately; but from here on out we need a clear process that people can follow that allows complete review and for the SSC to feel confident about the results.

Whatever input you all want to have into the process needs to be spelled out. If people are willing to do that to meet those criteria or to do that process, then, fine, we'll look at the assessment. Otherwise, it won't be considered, but they need to know that ahead of time what you expect them to do.

DR. BARBIERI: Well, to that point, John actually has just distributed by e-mail the draft document that Steve put together, which I know the subcommittee hasn't had really a chance to fully evaluate, but that would give everybody an overview of how much Steve has put into that document. It might help folks provide the committee with some comments that might help accelerate the process of the subcommittee actually incorporating some of those thoughts and suggestions into this.

DR. BERKSON: I just want to stress for the record, and so the SSC knows, this is not a draft from the subcommittee in any way, shape or form. This is a draft from Steve Cadrin, who is one of our exceptional members of the SSC, who has exceptional ideas, but this is not agreed upon in any way at this stage by the subcommittee.

DR. BARBIERI: Nevertheless, now that we have clarified the fact that those are really Steve's ideas; that is his first cut of this, what he sent to the subcommittee for comments. Since he put something together, it will give you an idea of at least what his thoughts are on this topic. I would encourage all of you to read that document. Depending on our schedule, either later today or sometime tomorrow, depending on how things are moving, we might be able to actually revisit this issue, take advantage of this.

What I heard from Dave and Michelle was that the council really would like to see this issue resolved sooner than later, and Michelle even mentioned a potential update to the council in June, so it really calls for action on this. I would encourage everybody to read the document. I imagine we will have some time tomorrow that we can then take advantage of that we are all here and at least provide the subcommittee with some input that they can work on.

DR. GRIMES: I think that it would be useful for the members of the subcommittee to have people to go through the document and provide written comments on it. I mean that would help us move it forward. But as the committee, we need to consider those comments and consider our own comments and decide what we think before we can say anything definitive to the SSC. I don't know whether – I don't know; I guess discussing it some more tomorrow would be useful, but we're not going to have a chance to improve it any, I don't think.

DR. BARBIERI: Well, let me clarify. The idea is not to have a ready document or ask the subcommittee to bring that, because that would not be reasonable. But right now, since we have to move forward with this topic, it is an opportunity. Instead of having a conference call, a webinar two months from now, here we are already in the room tomorrow. If we have some extra time, I think it would be useful to the subcommittee to receive that feedback from the committee, which might speed up the review process for the subcommittee internally.

Eventually the concurrence with the full committee I think would be easier to achieve, because you are already incorporating from the get-go some suggestions and feedback. The idea was just to inform you from the full committee on the issues that we see might be relevant for you to consider.

MR. CARMICHAEL: I just wanted to comment that procedurally the subcommittee is a convenience. You don't need the subcommittee to do this work first. This is a policy of the SSC. You can take what was done – whether it is the subcommittee or one person; the SSC can consider it and come up with the policy.

That document that you have may just become a reference, a point of discussion; and you may flesh something out that states the policy and gives the guidelines as it should be. It may be a list of bullets. It may just be a few paragraphs or sentences, I don't know, but I think the point is the objective was for the SSC to address this at this meeting; and as we've heard, the council was kind of counting on you guys doing it.

There are other forces out there that have been anxiously awaiting you to do this. Whether or not the subcommittee came as far as it did or should have or you might have wanted to or they wanted to, is kind of irrelevant at this point. We're at this meeting. This is the agenda item and we will use every minute we have until three o'clock tomorrow to address this agenda item, because this and the stock assessments is one of the most important pieces of business that we have this week.

DR. BARBIERI: Well, we heard that explicitly from the council chair and our council liaison, so we are taking this very seriously and we will move forward.

DR. BELCHER: I was just kind of thinking out loud about some of this, too, because I envision a large part of this; again, we can see it as a gamut of things. You either have people approaching the council saying I want to be involved in helping develop an assessment or you have the situation like we have with wreckfish where somebody has been working on a document externally, and they are bringing it to us.

As you read some of like what is in the strawman here, I see some problems with someone as an outside entity trying to do a different view of the process being inundated with a panel of all kinds of people from the region that basically at that point if there is any kind of ability for personalities to push or shove, it becomes a non – well, almost at that point you start flooding over with what becomes a southeast regional approach as opposed to a standalone.

As an academician, you think about an academician who is doing the exercise. They are doing it with their own though process, applying their own process to how they are analyzing the data, putting the data into the model and so forth; and all of a sudden to be hit with a panel that is

basically telling you that we don't want you doing it that way kind of derails the whole purpose of an independent thought approach.

I am almost wondering if maybe similar to what we talk about with our CIEs, CIEs are involved at the data workshop level; they are involved at the review level; is it worth it to say that maybe the SSC could be acting at that level? You get the person involved in the process and say we need to see your data before it goes in and it is just a checkbox approach to make sure that is again on compliance with what we're expecting and what we put into our on TORs.

Then go to the next step and go to the next step and kind of not so much do the insertion of the whole meeting forum; because again I feel like for what we do it for, it is almost diluting what an outside independent review or assessment would be. Again, you want to have to counterpoints on it. If we inundate on, it then it becomes basically a contaminated counterpoint, if you want to call it that.

I almost wonder if maybe that would be a way to look at it as to whether or not we just do the reviews at the levels. Plus if we do a SEDAR process and it is an outside – we already know that we have a hard time getting SSC members to participate in the SEDARs that we currently have scheduled.

If we throw on more assessments that are in a SEDAR type process and you put that; we are not going to be able to make those needs, which now again it looks like there is some degree of how are you making the determination of when an outside versus an inside has enough priority that you're putting people onto the outside assessment. Again, it is just kind of the thoughts coming to mind about some of the issues and stymies that I could see with an overburdened SEDAR approach to an outside assessment.

DR. BARBIERI: I completely agree; and I think those are excellent points, Carolyn. In this case, I can see us having to – if we have too much on our plate, we are going to interact with the council and ask for their guidance on what priorities they would see since we serve as a committee to inform the council.

We would be working with them to identify which ones fall through the cracks, which ones are given higher priorities. But my issue about good, better and best is based on the fact -- I mean several of us serve on editorial boards of major international level journals. We review articles for publication in the peer review literature that in some cases involve six to ten different investigators from six to ten different institutions; some of them distributed throughout the world.

In some cases they represent two years, three years, five years worth of data using phenomenally complex data collection methods and techniques. We have a manuscript editorial board review process that we don't send that back in and say because we haven't done the research review from day one, we are not going to accept it. Now if the editorial board and if the reviewers don't feel – oh, we need to move on. Okay, we will continue this tomorrow.

MR. CARMICHAEL: I'm not trying to cut it off, but we are not going to probably wrap this up here promptly. I think it is going to be much better if everyone gets a chance to read that



document and look at what was in the October report and kind of come up to speed on it; and then cogitate a bit on what you would personally like to see out of this process.

DR. BARBIERI: I agree. Just to complete my thought; I do feel that in the international level, the scientific review process that exists is a well-established process and it is much more flexible than perhaps what we have been discussing. I just want you to think about this and be consistent with what we do in our day jobs. Number two, tomorrow I really want to make sure that we identify timelines for completion of this topic so we can address what the council has been asking.

DR. BARBIERI: Well, we are a little bit ahead of schedule this evening again. We are scheduled to start tomorrow morning at 9:00 a.m. with the fishery-independent reef fish sampling presentation that Marcel is going to give. This is just to provide an update and summary presentation to the committee on where we are and I guess learn a little bit about the bells and whistles that MARMAP has been developing and to kind of update the committee on the status of their survey results. I would say that at this point it might be best for us to simply adjourn for the day. I don't know if you are ready to address any of the other items.

DR. VAUGHAN: As one who is driving home tomorrow and would hope that we're not going to be here until three o'clock, it wouldn't be bad to get a little bit ahead of things going into tomorrow.

DR. BARBIERI: Right; and the question is are we prepared? Of course, Marcel is not here. We could go with Snapper Grouper Regulatory Amendment 14. Myra is shaking her head no. But, Anna Martin is here, too, and she would be available and excited about presenting Coral Amendment 8.

DR. BARBIERI: We are prepared to start at 8:30? Yes, this is an issue that now that we have the broadcast of the meeting, and we have the webinars options that folks might be – this is the trouble with adjusting the agenda after the agenda is posted. Looking at the rest of the agenda, and now that we have one of the items being presented this afternoon; I doubt that we're not going to be done by noon.

MS. MARTIN: All right, I am going to be talking about Coral Amendment 8 with you. You've heard a little bit about this before. These are actions that would modify the coral habitat areas of particular concern, which we refer to as the Coral HAPCs. These are actions that were included in CE-BA 3, Comprehensive Ecosystem-Based Amendment 3, along with a number of other items. I just wanted to give a little bit of background on where these came from originally. We have a number of deep sea coral scientists that serve on our Coral Advisory Panel.

In October of 2011 they came forward with a presentation at the AP identifying a number of areas of deepwater coral habitat lying outside of the HAPC boundaries. The areas they were specifically talking about are the Oculina Bank HAPC, the Stetson-Miami Terrace HAPC, and the Cape Lookout HAPC.

A lot of this work was conducted under NOAA' Deep Sea Coral Research and Technology Program. They focused their efforts in the South Atlantic specifically during the years 2009 to

2011. Because of that focused research, they were able to conduct a number of field surveys to some of these areas that they hadn't received funding to be able to assess.

The recommendations kind of are directly tied to the new research they have been able to get out there and perform. What resulted from the 2011 AP meeting, the council approved these measures for public scoping through the CE-BA 3 amendment process. Public scoping meetings were held for these actions in January of last year.

During the scoping meetings, we heard a lot of feedback from deepwater shrimp industry representatives that attended the meetings. There were interests in working with the Coral Advisory Panel. As you're aware, we have a Deepwater Shrimp AP. They expressed their interest in sitting down with the Coral Advisory Panel, talking about these areas and coming up collectively, if possible, on recommendations to the council that take into consideration the rock shrimp fishery impacts.

That is specifically talking about the Oculina Bank expansion; and a little further offshore the deepwater shrimp is the royal red shrimp fishery, and that is particularly talking about the Stetson-Miami Terrace HAPC expansion. The Deepwater Shrimp AP and the Coral Advisory Panel met jointly last fall.

Considerable headway was made towards some of these actions and alternatives that are now in Coral Amendment 8. The council took these actions out of CE-BA 3 in June of last year and provided guidance for developing these through this coral amendment. This has changed somewhat since you received a presentation last year.

They are a little more refined; the groups have arrived at some level of consensus. We have another joint advisory panel session scheduled with representatives from the Deepwater Shrimp AP, the Habitat AP, the Coral AP and representatives from the Snapper Grouper and Law Enforcement AP.

They will be meeting in May to further flesh out these alternatives, provide input to the council once again before the council reviews this amendment in entirety again in June where they will be considering this for approval for public hearing. That kind of gives you a little bit of background on where we are here, where these actions and alternatives came from, and steps moving forward; what the council will be looking to do in June.

We do have a purpose and need, which is projected here for this amendment. This is very similar to the purpose and need that was identified in CE-BA 1, which as you recall CE-BA 1 was the vehicle that established the five Deepwater Coral HAPCs, the original HAPCs. The Coral FMP is the vehicle that originally established the Oculina Bank HAPC. This is similar in scope to the purpose and need that was included in CE-BA 1.

All right, moving on to the action language – and a little bit of background on these specific areas – Action 1 considers modification of the Oculina Bank HAPC. With this particular area we are talking about a northern extension of the HAPC and a western extension. For this area we are also talking about impacts to the rock shrimp fishery.

I wanted to give you a little bit of background as far as the scientific information that was presented to the Coral AP on what they were able to go out there and document that resulted in these recommendations. You can see here in these two areas – this is a report that was submitted to the council by John Reed. He is one of the Deepwater Coral AP scientists serving on the Coral AP.

The report associates the discovery of coral habitat in this northern area. You see the blue polygon down below; that is the northern extent of the existing HAPC. The two areas that look like little blue rectangles there, those are the areas they were able to multibeam map and also conduct a couple of ROV dives.

This is an area off of Titusville and Daytona. In the report submitted to the council, John Reed and others that were out there conducting this research associate the habitat in these areas with an extension of the original reef track of the original Oculina Bank. They did refer to the NOAA bathymetric charts to discern some of these high-relief features, and that is how they were able to select what areas to go out there with this equipment and take the ROVs down and further assess.

I also wanted to show you a couple of closer images. The box on the left there; this depicts the multi-beam sonar off of Daytona. It does overlay the two ROV dive tracks; one here down in the south and one up here in the north. You can see this is an area of high-relief features and the scientists were able to determine this is oculina varicosa habitat, very similar in scope to what is occurring in the existing HAPC.

Similar to the area that they were able to map off of Titusville, this shows you an overlay of one – they were only able to conduct one ROV dive in this northern area. Again, this kind of shows you a little bit of background on where the Coral Advisory Panel recommendation came from. Flipping back to the actual documents, the two alternatives we have discussing the northern extension of Oculina; Alternative 2A is what the Coral Advisory Panel originally recommended.

This is what was taken out for public scoping. This extends the northern boundary and following the west and east boundaries in that northern zone along the 60 and 100 meter depth contour line, adding approximately 430 square miles. Now, during the joint advisory panel meeting last fall, this Subalternative 2B was what was developed as consensus.

Again, this is something that we need to refine with the APs when they meet again in May, but this tracks the 70 and 100 meter depth contour in that northern expansion while annexing obvious hard-bottom features. There is about 100 square mile difference in the two alternatives there.

The Deepwater Shrimp Advisory Panel – some representatives from the Deepwater Shrimp Advisory Panel are interested in tweaking the area that has been identified in this Subalternative 2B. But we did leave the joint AP meeting with some consensus for this particular subalternative and their recommendation to the council for consideration here.

We have some preliminary charts in the document. You will see the disclaimer in the document that they will be updated upon completion of the VMS data. The analysis that we have, the VMS analysis; as you know, the rock shrimp fishery is the only fishery at the moment that is required

to carry VMS. The analysis in the document includes fishery impacts associated with that VMS data for the rock shrimp fleet from 2007 to 2011.

We are working on obtaining the full suite of VMS data, so when this was first implemented in 2003. The charts haven't yet been updated. We are waiting to include updated charts to reflect that once we receive the data. But Figure 4-1 represents Alternative 2A and Figure 4-2 represents Alternative 2B.

Alternative 3 in the document; this was also included in John Reed's proposal to the council. The Coral Advisory Panel's recommendation is the modification to the western boundary of the Oculina Bank HAPC. This is primarily within the two existing satellite sites. We do have some VMS points in there that you can see.

There is little fishery impact associated with this alternative. There is not a lot of rock shrimp fishery activity in this zone. But based on the multibeam bathymetry data, there is some habitat, and that is where this recommendation has come from. That is Alternative 3 in the document. On this chart here, the green point is a VMS ping point.

That is Action 1 specifically dealing with the Oculina Bank. This Table 4-2 in the document is what will be updated once we receive the new VMS analysis, so it gives you percentages of the fishing VMS points that are in each scenario. That is certainly resourceful for the analysis for this particular action.

Action 2 is considering a transit provision through the Oculina Bank. Currently vessels are not allowed to possess on board their vessel rock shrimp while motoring through the HAPC. The issue here is because of that large swath of area proposed in Action 1, the rock shrimp fishermen have expressed some concern about not being able to access productive fishing areas off of the eastern boundary of the HAPC.

The council is considering a transit provision that would allow these rock shrimp vessels to possess rock shrimp on board their vessel while transiting through the HAPC; effectively allowing them to fish some of these traditional areas off of the eastern boundary of the HAPC that they have been operating. Alternative 2 is somewhat dated of an alternative, because Alternative 3 is what came out of the joint advisory panel meeting last fall.

With both alternatives, you can see the council is considering a minimum speed. They have obviously had some input from Law Enforcement Advisory Panel and the Law Enforcement Committee here on some guidance on what a minimum speed should entail the definition of stowage of gear, and that sort of thing.

Again, these alternatives here still need to be fleshed out. We will be relying on guidance from Law Enforcement AP representatives at the joint AP meeting to provide additional input to the council in June. Are there any questions so far; just a couple more actions? Action 3; we're moving a little further offshore here in talking about the Stetson-Miami Terrace HAPC. Here we are discussing impacts associated with the royal red shrimp fishery.

All vessels fishing for royal red shrimp in the South Atlantic are also fishing for rock shrimp. As such, they are carrying the VMS, because they are required to have that if they are fishing for

rock shrimp. We do have some VMS information on fishing activity associated with the royal red shrimp fishery.

Again, I just wanted to introduce where this originally came from. This was also presented during the Coral AP meeting during 2011. Steve Ross, who is affiliated with UNC Wilmington, is one of the deepwater coral scientists serving on the Coral AP. You can see here the yellow polygon is the area in question that is proposed for extension of the western boundary. The red line here right along the 400 meter depth contour is the existing western boundary of the Stetson-Miami Terrace HAPC.

Again, they were able to go out there and further assess this area. They had an ROV, multibeam bathymetry, mapping was conducted, and this served as the basis for their recommendation. That recommendation turned into Action 3. Alternative 2 is the alternative that was developed after a consensus at the joint Coral and Deepwater Shrimp AP meeting last fall.

You can see there is an overlap here with the North Florida Marine Protected Area, but this would incorporate the shallow water lophelia ecosystem and establishing this western boundary along the 200 meter depth contour line. The processed VMS points here are indicative of the royal red shrimp fishery, so you can see there is some impact.

It is somewhat minor; and again, once we have the final VMS data, it will provide more specific analysis for this particular action as well. Figure 4-6 is representative of Alternative 3 under Action 3. This is what was developed by the Deepwater Shrimp Advisory Panel when they met after the public scoping meetings.

What they did was recommend to the council consideration of what the Coral Advisory Panel had originally proposed and effectively cutting out all of the areas based on the processed VMS points where they have traditionally operated for royal red shrimp. That is where Alternative 3 came from.

Alternative 2 is a little further along as far as the Deepwater Shrimp AP had input into development of Alternative 2 as a recommendation to the council. Alternative 3 is a little outdated at this point. We'll be discussing this with the council again in June, and it may be something that is removed to the considered but rejected appendix.

There is one more area in the amendment, and this is Action 4. This considers a northern extension of the Cape Lookout Coral HAPC. This is off of Wilmington in North Carolina. Once again this came from information that Steve Ross presented to the Coral Advisory Panel in 2011. They were able to map this northern extension.

The yellow polygon represents the area in question proposed for expansion here. Based on the multibeam data, there are lophelia coral bioherms in this northern area. The Coral Advisory Panel recommended to the council to consider extending the northern boundary of this HAPC. One thing we heard from the Law Enforcement Committee at the council was, well, if the AP is suggesting this small area, for enforceability purposes it might make more sense to extend that to encompass the width of the original HAPC.

But the Coral AP stuck to their recommendation being tied to the area that they were able to further map, so that is why it is one little finger-like structure there. The Coral Advisory Panel presentation translated into Alternative 2. The council approved this for public scoping under CE-BA 3; and what you see there as Alternative 2 is the Coral AP's original recommendation.

This is the deepest of the HAPCs. It sits between 4 and 600 meter depth contour, I believe. There is little fishery impact in this particular area. The deepwater shrimp industry representatives didn't have much comment for this expansion that is being considered. That is all I have. I know we have some language about SSC input. It is kind of general.

DR. BARBIERI: Anna, this is a follow-up update. I remember last meeting where you gave us a more preliminary, at that stage, overview, and then you said, well, we're going to actually get some additional input from the AP and we are going to come back to you with an updated presentation that would be more informative; so this is it?

MS. MARTIN: That is right. When the SSC first saw these measures they were – I think it was shortly after the scoping process. We hadn't yet met with the advisory panels. They hadn't provided input yet on any of the – well, the Coral Advisory Panel had been the only AP that had been able to provide input for these areas. That was about a year ago, I believe. I don't know that the SSC saw the detailed areas in question. We didn't yet have the charts readily available. It was preliminary.

DR. LARKIN: Can you talk a little bit about the completion of the socio-economic components?

MS. MARTIN: As far as when that would be done?

DR. LARKIN: Yes, and a little bit about maybe how; I mean sort of evaluating a change in the size of an area as I can imagine being a little bit challenging.

MS. MARTIN: Kari, do you want to talk about that?

DR. MacLAUHLIN: Not really. It is really complicated to quantify the social and economic impacts of these closed areas; because for social impacts, probably any negative impact is going to come from the economic impact in which they lose money because they can't get to a place or they have to go around it.

Then any social benefits would come from the biological benefits, which we are going to assume that there will be some, and if you close these areas it will be beneficial. I have just been reading the literature about closed areas and impacts, but as far as quantifying it, no, we don't have a plan yet.

DR. LARKIN: Do you have a timeline for doing that?

MS. MARTIN: Timeline; we're convening the IPT again once we receive the VMS analysis, the final VMS analysis. That is still under development. Roger, on our staff is working with Carlos Rivera with the NMFS VMS staff. They've had a few technical glitches I think in getting that dataset, the complete dataset; and we will be convening the IPT once we get that in hand. Timeline, I'm not sure. It likely won't happen before the June council meeting. But looking

ahead past the June council meeting, the track we have this on right now is potential final approval at the September council meeting; so sometime between June and September.

MS. LANGE: I am not really that familiar with the coral. Are these areas where the diving discovered coral or they are just the types of habitat where coral might appear, might move to?

MS. MARTIN: You're talking about the existing areas or the newly proposed?

MS. LANGE: The newly proposed ones.

MS. MARTIN: Well, the multibeam bathymetry indicates that there is habitat there. The ROV dives were able to groundtruth, so there have been observations of coral habitat.

MS. LANGE: Coral habitat or coral actually there; habitat that will support coral or actual coral?

MS. MARTIN: Both; there is a mixture of standing colonies, dead rubble matrix. It is a mixture of habitat.

DR. BARBIERI: I guess what Anne was asking; and if I understood your answer is that, yes, it is likely that is suitable habitat for corals; and given that suitability, those dives were to groundtruth the existence of actual live coral there, yes.

MS. LANGE: But there is actual coral in those areas or remnants of coral that had been there in the past?

MS. MARTIN: Yes. There is also videos and photo surveillance when they were able to take the ROVs down there that documented the groundtruthing aspect of the assessment that have documented the discoveries.

DR. BARBIERI: Are there any other questions or comments for Anna regarding this amendment? I am looking at the schedule here, Anna. If I understand this correctly, this may be our last opportunity for comment, because this will be final review and submission to the council at their September meeting.

MS. MARTIN: Unless you will have any special meetings scheduled before September; yes.

DR. BARBIERI: Are there any concerns or comments regarding where we are with this? We appreciate the update. I think it was good to see moving forward with some of the documentation of the groundtruthing of the corals and moving forward with the action.

DR. BUCKEL: I had a quick question. I know there is an MPA working group that has met a couple times. In terms of some of the ROV work and camera work, I'm just curious if there is any – I know most of the MPA work has been for shelf-edge species, and some of these habitats are deeper. Some of the species I think that they are trying to protect with the MPAs are also found here. Is there communication between the MPA working group and the coral group; and are those closed areas being considered in that?

DR. GRIMES: We're certainly aware of where the HAPCs are and everything, and there are several of us that have dived in there and worked in there ourselves. We're aware of it. Nobody has come to any of the MPA workshops that I've been to who was on that Coral Working Group or anything like that or AP, so maybe not formally.

MS. MARTIN: I'll just add on to that. Nick Farmer is involved in development of this document. He is instrumentally involved with the MPA Expert Working Group. There will be some level of discussion – I'm not sure to what detail – about expanding coral habitat area of particular concern protection and how that would translate to protection for speckled hind and Warsaw grouper.

There have been some speckled hind observations in the Oculina Bank, and I know that the Expert Working Group has discussed this in some detail. The thing with the HAPCs is that there are some gear restrictions, but hook-and-line gear is not restricted in the HAPCs. It is primarily bottom and mid-water trawl and anchoring.

DR. LARKIN: I was just going to say that since we won't see it again, it is impossible for us to comment on something that isn't in there. Since we won't see it again, I would just encourage council staff, if they have any questions or need for information, that they could contact us. I do know for instance, some of the numbers that were referenced for the for-hire fleet was from a study ten years ago and there was a recent one done last year.

There are some sources of information that might be helpful, but that is a challenging thing to do between now and then. I think I would sort of offer up the SEP to try to help and don't feel reluctant to contact us because you have such a short time period.

MR. CARMICHAEL: Yes, I think we can always send things out to you guys for e-mail for comment and suggestions. And especially when you're saying you are okay with that; I'm sure they would be glad to.

DR. BARBIERI: Mike, this is one of those points that we would like to have captured – yes, to include it, because I think it is something very relevant to include in our report to the council that the SSC, understanding that this meeting and this presentation is their last opportunity for comment, that you are coming forward with an offer of help in providing additional information if they need to have that decision better informed by socioeconomic impact.

MR. HARTIG: To the point that Anna was talking about before and to Jeff's question about what is going to be lost and what is going to be gained; the efficiencies of anchoring are significantly higher for some species and able to capture those species; not only just capturing them, but the volume of capture changes significantly from species to species whether or not you are able to anchor in those areas.

We will be getting some additional protection from that anchoring. However, when you get into the species-specific talks with Warsaw and speckled hind, particularly speckled hind, because it is one of those animals for whatever reason you put bait in front of it, no matter if it is bouncing along the bottom or your anchor the animal eats it. It is just one of those species that we have a hard time managing, because it is so susceptible to just about anything you put in front of it for at least speckled hind. Warsaw is a bit different. It is a more specific type of fishery. Speckled



hind, you may not get the same kind of protections when you prohibit anchoring as you would for, say, gag. Gag, probably 60 percent efficiency loss without being able to anchor.

DR. BARBIERI: Are there any other questions or comments for Anna? Let's look at our list of action items there. We are supposed to review and comment on AP recommendations and analysis. I think this is basically the summary that is a distilled version of what the AP recommendations; and has been all integrated with other input from staff and the council is what you presented to us.

Do the proposed modifications to the Coral HAPCs meet a purpose and need for Coral Amendment 8? Remember, the purpose and need, the purpose of Coral Amendment 8 is to increase protections for deepwater coral based on new information of deepwater coral resources in the South Atlantic.

The need for action in Coral Amendment 8 is to address recent discoveries of deepwater coral resources and protect deepwater coral ecosystems in the South Atlantic Council's jurisdiction from future activities that could compromise their condition. Personally, I see the proposed actions as addressing modifications to the Coral HAPCs that would improve protection, and therefore would meet the purpose and need for the Coral Amendment 8. Would anybody disagree with that?

Okay, so that gets a checkmark right there. Then our next action item; AP recommendations are based on discoveries of new deepwater coral habitat outside of HAPC boundaries. Anna, explained to us what some of those new discoveries have been. Do they warrant measures identified in Coral Amendment 8? I guess to some extent that goes to Anne's questions, right?

MS. LANGE: Well, I have another one, and obviously the Coral AP has gone all over all of this. The areas that were described as having been recently looked at are two very small areas. The area that you are looking to actually close is quite a big larger. Is there a reason to assume that the same conditions apply throughout that area?

MS. MARTIN: The Coral AP recommendation is based on the areas they were able to groundtruth and also in the context of probable extent of habitat. Again, that is also referencing back the NOAA bathymetric charts and analyzing those before they went out there to assess these kind of minute – they looked minute on the map – areas. Analyzing the original bathymetric charts, going out there and conducting the multibeam bathymetry assessments, and groundtruthing that with the ROV dives has led them to base the recommendation on probable extent of habitat.

MS. LANGE: They went through and basically set up a strata that they assumed would be similar in bathymetry and then did a couple of random samples or some sort of sampling of those to groundtruth it; that there actually was coral there.

DR. GRIMES: The OCS; basically from Cape Hatteras all the way around the Florida Peninsula and up into the Gulf of Mexico is all drowned Pleistocene reef in many places; and probably a hell of a lot more than it has now, had live corals on oculina, lophelia and that sort of thing in that area. I don't know what they used to groundtruth, but the Fisheries Service used to have a drop-camera survey that they used throughout the South Atlantic Bay.

It was intended for reef fish, but they made camera drops and would have been able to determine whether or not there was coral down there. It was intended to find fish, and it was stratified to be just on existing hard bottom. I'm not quite sure how they originally arrived at that; whether it was just based on bathymetry or something else.

DR. BARBIERI: We've been looking at some habitat mapping of the West Florida Shelf, and this seems to be just standard procedure working with USGS. Considering the cost of conducting this very high-resolution multibeam sonar mapping of areas, they have to identify little blocks to sample, and then they sort of expand that. It is like applying statistical inference and expanding that to the habitats that meet those same criteria.

MS. LANGE: I just wanted to get all that on the record, because we're being asked as the SSC if there is a reason that we would make a recommendation; and just to have two little blocks showing there that says we found coral here so let's close these whole areas; I wanted a little bit of discussion on the record that describes that there is more to it than just that.

DR. BARBIERI: Yes, thank you, and all of this has been actually captured in our meeting notes and will be documented in our report. Are there any other questions or comments for Anna? If not, Anna, thanks again for the impromptu presentation. That was very accommodating of you. It was helpful for us to gain time, and we appreciate you stepping up to do this for us.

We are a little bit past our time so I think that we are going to adjourn for the day. We meet again here tomorrow at 0900. Yes, and by the way as a reminder; as you get back to your rooms after dinner and you are looking for something interesting and stimulating to read; you have the Steve Cadrin notes on the peer review process as a way to summarize his first thoughts. The other committee members will be expecting some comments from you, some thoughts or contribution or discussion that can inform their discussions on this.

**The Scientific and Statistical Committees of the South Atlantic Fishery Management Council reconvened in the Crowne Plaza Hotel, North Charleston, South Carolina, Thursday morning, April 11, 2013, and was called to order at 9:00 o'clock a.m. by Chairman Luiz Barbieri.**

DR. BARBIERI: Good morning, everybody, and welcome to the third and final day of the South Atlantic Council's April 2013 SSC meeting. We have a half day sort of meeting planned for today, starting with a presentation by Vice-Chair Marcel Reichert of the fishery-independent reef fish sampling for the Southeastern U.S. This is an idea that Marcel had that we all thought was a very good idea to update the committee on where we are with the MARMAP Fishery-Independent Sampling Program and bring us up to speed on any new developments or the status of some of the stocks from a fishery-independent perspective.

DR. REICHERT: I want to thank the SSC for the opportunity to give you guys a brief update on – and it is not the MARMAP activities. This is the combined MARMAP/SEAMAP/SEFIS Reef Fish Monitoring Program. This is an update that includes the efforts of the 2012 sampling year.

Some of this information is not new to you, I realize that, but MARMAP has been in place since 1972, and we've been monitoring reef fish populations since the late seventies. SEAMAP South

Atlantic provided us some additional funding starting in 2009, although the program had been in place since '86. Then largely based on the fishery-independent workshop that was held in 2009, the Southeast Fisher-Independent Survey came on line in 2010.

The three programs currently are working very closely together in monitoring live bottom habitat and have been using the fish traps since 1978; chevron traps since the early nineties. Just to remind you of our primary tasks which include monitoring abundance, relative abundance, including various gears, conduct life history studies, and then conduct research and provide that data for the stock assessments and the fisheries management in the region.

We also investigate and map bottom habitat to get a better picture of the live bottom habitat and reef fish habitat in the region. These are some of the species that we have been focusing on since we started monitoring live bottom habitat. As you know, our current primary gear is the chevron trap. We've been using that consistently in a standardized method since the early nineties.

We deploy generally in depths to about 120 meters, although trap deployments deeper than 100 meters are relatively rare. Our soak time is 90 minutes; they are baited traps. Since 2008 we had still cameras on our traps, although we did some camera work in the early nineties. We started using video cameras when SEFIS came online since 2009.

Currently we have one video camera and a still camera or two video cameras on the trap. These are some of the details of the location of the video cameras on the traps, and the still camera is on the right. Our current sampling design consists of close to 2,700 sampling stations, and those are selected based on known live bottom habitat.

Known live bottom habitat was determined based on video survey, camera surveys, trap catches and a variety of other information, including that from commercial and recreational fishermen and the historical surveys. Each year from these 2,700 stations we select a random subset of stations with a distance of at least 200 meters apart.

In general, the distance between the sampling stations is closer to 400 meters. Because of logistical reasons, a couple of years ago MARMAP and SEAMAP decided that MARMAP and SEAMAP would sample off of North Carolina, South Carolina, and SEFIS would sample off of Georgia and Florida.

The methods that we've been using are identical, and this just gave us a better opportunity to sample the entire area. Currently, which is important, MARMAP/SEAMAP processes all the life history sampling, including age and reproductive samples and the analysis; and SEFIS is examining all the videos and doing the video processing and analyses. In this presentation later on, I only present the summary of the trap data.

Currently we're working on one combined and comprehensive database that is managed in collaboration, and that will facilitate data analysis and providing data to the SEDAR process and fisheries management in the region. We are sampling using the RV Palmetto, which is a state-owned vessel. SEFIS is using the RV Savannah, which is owned by the Skidaway Institute of Oceanography. Each vessel spends about 35 to 60 days at sea in the summer, and each cruise lasts between 5 and 12 days, depending on schedule and weather conditions.

Combined, the MARMAP and SEAMAP program historically deployed a little under 700 traps annually; with the SEFIS program, we were able to more than double our sampling efforts. Currently we are deploying between 1,100 and 1,400 traps a year. I just wanted to remind you that due to the budget cut in 2012, we had to reduce our sea days a little bit, reduce some processing staff. We decided collectively to halt short and long bottom longline surveys.

Those affected mostly the data collection of snowy grouper and tilefish and some of the other deepwater species. In 2012, the maps on the right-hand side are the locations of all our trap deployments. Please note that each red dot may represent more trap deployments because of the resolution of the map.

But we deployed close to 1,400 traps; that includes some reconnaissance traps. All these traps had video cameras on them. In addition to that, we made about 460 other gear deployments, which includes CTD, some hook and line and some other gear deployments. In 2012 we collected 74 species and we measured, identified and weighed over 40,000 fish.

We kept for life history studies from the trap catches 8,690 fish, representing 32 species. In addition to the trap survey, we did some hook-and-line surveys to collect diet study information. We recently completed the collection of red porgy, vermilion snapper and gray triggerfish. Currently we are focusing on the groupers, red snapper and squirrel fish.

This is an overview of the species that we caught in our trap catches. As you can see, the overwhelming number is black sea bass, but we also collect obviously a lot of other managed species such as red porgy and gray triggerfish and vermilion snapper. I think what's interesting is that red snapper has become the 9th most abundant species in our trap catches.

Historically red snapper represented a very, very low percentage of our catches. These are the species for our life history samples. Again, black sea bass is the overwhelming majority of our samples. But as you can go down the list, you see that a lot of other managed species are being processed for life history information.

The other gears mostly represent some of our hook-and-line collections, but also MARMAP aged the red snapper that were collected during the opening of the two weeks in 2012, so that is why the red snapper numbers here are a little higher than in the previous slide. I have a few slides – some of the slides you have seen earlier this week, but they are an overview of the chevron trap data only. We only included the monitoring stations so they do not include some of the reconnaissance traps that we deployed. In the blue dots on the right side of the slide are the chevron trap locations that were included in this overview.

We selected depth ranges for species, and we selected those based on the depth over which we collected about 95 to 100 percent of those species to eliminate a number of zero observations. This is a time series from 1990 to 2012. We have some data from 1988 and '89, but at that time the trap was not consistently deployed, however, in a consistent manner.

These are our CPUE fish per trap per hour. I will show you both the delta-GLM standardized and nominal CPUE. The slides I show are normalized to the long-term average. I have some additional slides if you're interested that provide the absolute numbers. The error bars you see in all the slides are plus or minus one standard error.

Of course, there are a number of caveats that are important to keep in the back of our mind. This is a summary of an overview and not an update of the stock status. Also, the constraints and stratifications in the CPUE that we have used may be or will definitely be different from those used in SEDAR stock assessments.

If you compare what I'm presenting here with what is used in stock assessments, you may see some differences or you will see some difference. Then, also, many of the species have not been assessed or updated. The trends in the analyses that we have been using have not been discussed in the SEDAR framework, so that is also important to keep in the back of your mind.

I'm presenting an overview of a limited number of species. In our annual report, we'll provide information on 23 species. I've left out in this overview species such as black sea bass that we saw yesterday and also gray triggerfish, which is undergoing a stock assessment at the moment. But if you're interested, I have some of the slides available.

This is red porgy. As I said, you've seen some of these in the last couple of days. I think what is encouraging is a slight uptick in the terminal year 2012. Red porgy was updated recently, as you know, and is on the schedule for next year; red snapper, also a species that is on the SEDAR schedule for next year.

Vermilion snapper was recently updated. White grunt, I know I expressed some concern looking at our data in recent years in terms of the fact that a significant number of recent catches were on the lower end of the long-term time series but it seems the fishery-independent CPUE has increased slightly in the last couple of years.

Scamp, a graph we've seen in previous days; and on porgy. In some instances the 1990 data points need to be viewed with some caution, because that was the year after Hugo. There may have been some effect of sampling locations and sampling season that may affect the CPUE of some of these species.

Tomtate; and I believe this is the last species that I have a slide for. Our plans for 2013; collectively MARMAP, SEAMAP and SEFIS are obviously to continue sampling. Our regular sampling season is May through September. We have scheduled our cruises. Our first cruise starts on April 22; the last one ends October 18, weather permitting.

We are continuing the chevron trap surveys, but now all chevron traps will have two video cameras; one facing to the front and one facing away from the opening. We will continue some hook-and-line fishing for the diet studies; and obviously every trap set, every gear set will have a CTD cast associated with it. Currently since we haven't heard the final numbers for our funding yet for the upcoming sampling season, we will not resume the long bottom longline and we will not resume the short bottom longline survey, with the exception of maybe doing some very limited short bottom longline.

If we are in an area at the end of the day and there is steam time to the next trap staging isn't too long and we have some time left, we may do some reconnaissance short bottom longline. With that, we need to acknowledge obviously the staff of the three programs and the research vessels

and crew. This is a large effort and a lot of people involved. With that, if you have any questions, I am more than happy to answer them.

DR. GRIMES: Yes, that rank abundance table that you showed; that was recent. When you commented that red snapper used to be way down and now they were more abundant than they used to be; is that right?

DR. REICHERT: Well, they are more abundant, but also you have to keep in the back of our mind that we doubled our sampling effort. In particular, we added a number of stations off of Georgia and Florida so that may have affected the abundance in the traps. We've also added a significant number of sampling stations off of North Carolina.

That is something that needs to be addressed in the SEDAR next year; how much the increase in sampling of stations that were historically not part of the MARMAP samplings, how much that affected the CPUE. But we have seen an uptick in snapper catches in the historical MARMAP sampling, also, but we haven't looked at that in detail.

DR. GRIMES: No, I was just found it interesting that rank abundance pretty much looked like it used to be in the 1970s off of North Carolina. Like Jeff's sampling is totally different from that. Yours was like red porgy, white grunt, vermilion snapper; they were all right up there, black sea bass around the top. That's the way it used to be up there. Your stuff has really changed a lot.

DR. REICHERT: The other thing that we are currently looking at is, for instance, how aspects of the trap, but similar issues are true for the video, and we are currently investigating some of those aspects. For instance, saturation of traps, looking at species interactions within the traps; spatial autocorrelations, so we are continuing to look for ways to improve the CPUE estimates both in the trap catches as well as in the videos.

DR. BERKSON: I just wanted to say I thought that was a great presentation, Marcel. That was really affective, great use of time, great use of slides. I wish my students had been able to see that because that was textbook. Thank you.

DR. REICHERT: We'll make the presentation available.

DR. BUCKEL: Marcel, you may have covered this and I missed it, but what is the delta-GLM – what are the variables that you are standardizing for in the delta-GLM index versus the nominal? Have you dealt with the spatial latitude and longitude changes in the amount of sampling in that?

DR. REICHERT: We have. We looked at depth, latitude, temperature and season. Those are the four that we are currently using, but we are, hopefully, ultimately, we are trying to see if we can take, for instance, half of the components into effect; and gear obviously was a factor in the delta-GLM analysis. Does that answer your question?

DR. DUVAL: Yes, that was a great presentation, Marcel. I know that you're going to be giving something similar to the Snapper Grouper Committee in June. Are you also doing that for the AP meeting in a couple weeks?

DR. REICHERT: Yes, in two weeks it is a similar presentation.

DR. DUVAL: I just wanted to give you guys' kudos again for how much you all do on such a limited budget, and how excited I was, personally, to see SEFIS come online and the complementary efforts there in expanding the sampling range; also, the additional habitat mapping that you guys are doing and stratifying the samples by habitat type.

Still, I think given the limited resources in order to maximize this program, I still think there is room for some creative, cooperative sampling I think with fishermen at the extreme ends of the range. It is very costly to move those vessels to above Hatteras and the southern part of Florida to get samples in the extreme parts of the range.

One of the things that I would like to see is maybe some thought given to how to use some alternative platforms, fishermen who are tied up at the dock to try to complement the sampling that you all are doing in your program. I've spoken to Todd Kellison about that as well and have had some good conversations.

DR. REICHERT: Yes, currently MARMAP and SEAMAP have done quite a bit of bottom habitat investigations, but in recent years it is mostly Todd Kellison's group who has done a lot of investigations using sidescan sonar and similar equipment to map bottom. We have traditionally collaborated with the commercial fishermen and the recreational fishermen to supplement our samples.

It is particularly important for our life history studies to get some samples outside our sampling season. Some species such as black sea bass, bank sea bass and some of the groupers are spawning prior to our sampling season, so it is important to get those samples. We get those mostly from the commercial sector. Also to get some samples from species that we traditionally don't catch a lot of in our traps, such as gag; that was a very important factor, for instance, in the gag benchmark we had quite a few years back.

DR. DUVAL: Just to follow up; I understand you are also talking to fishermen to try to get additional samples like for blueline tilefish and some of those deepwater species. I realize you guys have to make tough decisions in terms of the resources that you have available. It is hard to see the longline surveying cut out for those species that are already data poor to begin with, especially snowy grouper with the standard coming forward this year. I knew that you were talking to fishermen about getting some of those. Are you working with folks to try to maybe get some additional snowy samples as well?

DR. REICHERT: We've specifically talked about the blueline tilefish, golden tilefish. I don't think we specifically talked about snowy, but that would be another species where we have gotten increasingly data poor. That would be good. Yes, anyone who is interested in helping us in particular getting those life history samples, reproductive samples.; that would be great. We are always open to processing these samples.

Of course, we have to look at that in our overall workload, but some of these species have a high priority. Ben reminded me, I have a little four- or five-minute video of the best of and those are selections from both MARMAP and SEFIS videos that I can show in one of the breaks, some cool species on there. I showed that at the council meeting. If you guys are interested, I will put it up on the screen during one of the breaks.

DR. BARBIERI: Yes, that would be great, Marcel.

DR. GRIMES: What was the original stratification based upon, the identification of hard bottom?

DR. REICHERT: The original sampling universe was based on fishermen information, fishermen numbers, video surveys that MARMAP did in the seventies, reconnaissance traps, some information from I think recreational anglers, so there is a variety of information. But what we traditionally do is once we have some information about a live bottom habitat location, we go there and we do a number of reconnaissance traps.

Initially when we didn't have the video or the cameras on the traps, we looked at the species composition of the trap catches. Based on that species composition, we decided to either include or not include a sampling station to our universe. Once we had more information based on the videos and the cameras, then we can use that plus the trap catches to verify habitat. I hope that answers your question.

DR. BUCKEL: Marcel, the review of the SEAMAP/MARMAP/SEFIS program that took place a little over a year ago had some recommendations, what is the status of some of those? I remember one in particular like having a mix if fixed and then random stations. You had some fixed stations that you hit every year to reduce that spatial variability in the index of abundance, and there were other recommendations. What is the status of the programs taking those into account or not?

DR. REICHERT: We currently have not, because a lot of those analyses are being done or have not been done. SEFIS has largely taken the lead in doing some of the analyses. In terms of the permanent stations and the randomly selected stations; the way we set up our sampling – and that was one of the comments that the review panel made; that in effect we include that in our sampling regime, which is good because then we can use that in a potential comparison of methods. But we haven't made a conscious effort to select permanent stations yet in addition to our random stations. We are still working on it, but we haven't implemented any of the results of those analyses yet, because we are still working on that.

MR. HARTIG: Marcel, in your sites that you had, in those blue sites along the shelf edge you had a number of spots where you had sampling stations butted up against each other. What was the driver for that? Is there anything driving those sites to be so close together in those specific areas? I mean, was it habitat that was looked at before that you guys came back and sampled? How did all those sampling sites get so close together?

DR. REICHERT: I think historically what happened; what you can do probably is draw that line from South Florida all the way up. There are a couple of interruptions in that shelf-edge habitat. Ultimately or initially I think that the decision was made, although that was prior to my involvement, is to select an area that may be representative of that shelf-edge habitat, and then move north or south and do a cluster of samples there; and then move that along the shelf edge to get an idea of the spatial variability.



The fact that sampling stations are clustered is one because of the spatial variability of live bottom habitat, which is not necessarily the case at the shelf edge, because that is just a continuing habitat. Also for logistical reasons, we put traps down in sets of six. That means that initially when you select your stations, you have a set of six, or a set of twelve or eighteen. I think that is part of why you see those clusters, especially along the shelf edge.

DR. BARBIERI: Are there any other questions or comments for Marcel? Marcel, thank you so much for the presentation and for the updates. It is very, very helpful for us to have this overview, especially considering what we've discussed this week regarding the ORCS and some of the stock assessment results. It is really helpful.

Looking at our overview document, this is a review and comment item with no necessary action item. We are ready to move on to our next agenda item, and that is a discussion of the status and overview of the Snapper Grouper Regulatory Amendment 14, and we're going to have Myra come over and give us the presentation.

MS. BROUWER: This is an amendment that is under development. The council made several changes to the actions that are included in this document at their meeting in March. We are currently doing the analyses for all of these, so I don't have any results to show you. Basically this is more of an FYI.

These are the actions that are being considered, the alternatives and the reason why the council is considering them. Hopefully, you will get to see this amendment again at some point before it is approved. The timing right now is for this to be approved for public hearings at the upcoming June meeting. The public hearings would be held in August.

If all goes well, then the council would approve it for submission to the secretary at their September meeting. On Page 4 of the summary document that is included your briefing book is Action 1. Initially the council had considered either modifying the fishing year for amberjack or modifying the trip limit.

The trip limit was recently changed. Regulatory Amendment 9 increased it to 1,200 pounds, so that is the current trip limit. After discussing with the fishermen and among themselves, council members decided that modifying the fishing year would probably be a better approach. Mainly it is because some folks have come to the council and requested that the council consider this, because in the region where they fish, amberjack seem to migrate out of that region during a certain part of the year and so it doesn't benefit them too much.

Of course, there are fishermen in other regions that do not agree with that. The council will have to try to balance things out there. Action 2 would only change the measurement method for gray triggerfish. The council had other actions pertaining to gray triggerfish in this amendment at one point, but then they decided to wait until the results of the stock assessment were available to proceed with any changes in the management of gray triggerfish.

This would simply align the way that triggerfish are measured in state waters of Florida. The size limit is specified in fork length, and in federal waters it is specified in total length. It creates a problem especially because the way the triggerfish; their tail is shaped with the little spindly bits. That is what this action would do.

The council is also considering increasing the minimum size limit for hogfish. This is something that came to the council's attention from the Snapper Grouper AP. It was a recommendation or a request that the AP came up with. The council in March decided to go ahead and leave this action in this amendment and take it out to public hearings. However, there is currently a special committee – I'm not sure what to call it – but it is a committee that is going to be addressing management issues that pertain to South Florida fisheries.

This particular action is going to come up for discussion during the next meeting of this committee, because it seems to be again there is regional differences in the size of hogfish latitudinally. It may be one of those things where there needs to be different specifications for different regions.

Action 4 would modify the fishing year for black sea bass for the recreational sector. Again, the council is struggling with what modifications to make to the fishing year for black sea bass that are going to address the needs and the concerns of fishermen throughout the region. It is a very hard thing to do, because the folks in Florida would prefer a different opening than the folks in the Carolinas. The council is going to be considering this again. They've already talked about it during development of Regulatory Amendment 9.

They did have a good bit of discussion and at that point they said, well, we probably ought to be considering regional management for this species, and that keeps coming up. The fishermen keep suggesting that the council have that conversation, and they just haven't gotten to that point yet. Here you have all the different recommendations and motions and things that the AP has provided to the council in recent years.

The next action would do the same thing for the commercial sector. The issue here is attempting to line up the opening of black sea bass with that of other co-occurring species, mainly vermilion snapper to minimize discards. Amendment 18A put in place an endorsement program for the commercial sector for folks that fish for black sea bass using pots.

It ended up being that only 32 individuals received an endorsement. The pot sector of the commercial fishery has been substantially limited, I guess. The issue with this action is with the increase in the ACL, the commercial season is probably going to be extended enough that pots would still be in the water during the beginning of calving season for right whales off the South Atlantic.

We're having discussions with Protected Resources Division to figure out how this is going to work out, which alternatives are going to be feasible. The council is actually considering a closure for the pot sector in Regulatory Amendment 19, which is the one that we're going to have ready here in a couple of weeks that is going to adjust the black sea bass ACL.

Hopefully what is going to happen here is the Protected Resources Division is going to reinstate a biological opinion for the snapper grouper fishery to determine the interactions between commercial black sea bass pots and right whales. There has not yet been a documented interaction with right whales.

The council would really like for another biological opinion to be prepared, especially since they've done so much in Amendment 18A to change things to protect right whales. The things that 18A did besides the endorsement program was also to limit the number of pots to 35. It also had a provision where pots need to be brought back at the end of each trip.

There are several other things that have been put in place that would be beneficial for right whales, but there is no account of how these regulations are affecting management. A biological opinion would be a good thing at this point. Of course, that takes a while, and that would bump this document to an environmental impact statement which is a lengthier process than an environmental assessment. That is probably what is going to happen.

Action 6 would modify the commercial fishing seasons for vermilion snapper. This is an action that was included in Regulatory Amendment 18, which is the one that is being submitted to adjust the ACL for vermilion snapper. Again, it is to try to line things up better for the fishermen. The alternatives actually include how to apportion the ACL increase.

Fishermen said, well, how about the increase that is going to be given to us after Regulatory Amendment 18 goes into place, maybe 100 percent of that needs to go into second season or maybe 25 goes in the first season and 75 percent goes in the second season. We have alternatives to look at all that. Again, this is at the request of fishermen. Are there any questions so far?

DR. DUVAL: Myra, not a question but more a comment on Alternative 3 under that action. I think it looks like there is a typo because it reads 25 percent. Okay, you've got it, never mind.

MS. BROUWER: Yes, sorry, that is a typo. Action 7 would modify the aggregate bag limit for grouper. Right now the bag limit is three fish per person per day out of which only one can be a gag or a black grouper. The Snapper Grouper AP came to the council and requested that they consider increasing the number of gag that can be retained.

This is based on the fact that the recreational ACL hasn't been met; in fact, the landings have been very far below the recreational ACL. Here we have alternatives to look at increasing retention of gag. Action 8 would modify the accountability measure for just the commercial guys. We recently did that in Regulatory Amendment 15, which hasn't yet gone into place.

It did take away the shallow water grouper closure that happened once the commercial ACL for gag was met, and so that is going to go away. Here the council is going to consider a step-down trip limit, and again at the request of fishermen to lengthen the season. We needed to modify the recreational accountability measure for vermilion snapper.

Now that the assessment results are in, the alternatives would look at taking away the payback. Right now there is a payback of overages. One alternative looks at payback only happening if vermilion is overfished or only if the total ACL is exceeded as opposed to only the sector ACL. Another reason the council needs to address this is because another thing that Regulatory Amendment 18 is going to do is take away the recreational closure that happens every year for vermilion snapper, and so that needs to be accounted for. That is the list of actions in Regulatory Amendment 14.

DR. BARBIERI: Are there any questions or comments for Myra regarding Regulatory Amendment 14? Sherry.

DR. LARKIN: The complete document is due in June. When I read it, it says this is all for the socio-economic benefits; but when I look at some of these actions, it is just not clear. Some of them clearly seem regulatory, like consistency between states, which I get from a regulatory perspective why that is a good idea.

I don't necessarily see the direct benefits for a particular group for that. I'm wondering is the plan to survey the entire fleet to assess what the net benefits are overall? It sounds like almost all of them are – this group opposes it, this group supports it. There are benefits and costs for each. I'm trying to wrap my head around all these options if the sole benefit is for socio-economic benefits, are we going to be able to see a document that looks through and sort of supports that there are net benefits for each one of these things? How is that going to unfold?

MS. BROUWER: Probably not to the level that you would like to see. I mean, there is only so much analysis that can be done in preparation of these amendments and the timing that the council would like to see them unfold. No, I don't think there is going to be a very thorough quantitative analysis.

DR. LARKIN: Is there going to be any or is it going to be based on the opinions of people that show up at meetings?

MS. BROUWER: No, there always has to be an analysis. I'm not a socio-economics person so I am not sure of the extent of the analysis that needs to go into the document, and certainly some actions are going to necessitate more than others. Yes, that will be there. We will try to get as much analysis as we can for the version of the document that the council is going to see in June.

Sometimes the council; they don't have to have all the analysis in a document in order to approve it for public hearings. My feeling is that there will still be analyses that will have to be completed even after June. Especially if this ends up being an environmental impact statement, there is going to be a whole lot more that needs to be addressed. Hopefully there will be more time for the SSC to look at this more carefully when you have some results and analyses and things that you can really comment on.

DR. BARBIERI: I think those are very good points. Mike is trying to capture some of these comments into our recommendations or our review and comment point. I think it would be very helpful and maybe we can make a note there, Mike, next to SSC recommendations; some of these regulatory amendments, it would be very, very helpful to have the social and economic SSC members give it a thorough review.

It doesn't have to be anything long, but just put your recommendations that you guys can coordinate amongst yourselves. For the known socio-economic, it is difficult to capture really the essence of what sometimes you are trying to discuss and to articulate that in a way that reflects really the comments you are trying to make. I really would appreciate that.

DR. CROSSON: Yes; just from the perspective of being an economist in the Social Science Research Group down in Miami; it is getting very, very difficult to predict any of the economic

behavior of fishermen because the amendments have been coming so quickly. There is just not much consistency from year to year anymore.

The Waters Model is what we were using for years, but we've stopped using it because there are just too much, too many changes in recent years. Earlier during this SSC meeting, we were looking at the ORCS and we were talking about what happened after 2008 onward being difficult for the economy, but it has also been very difficult from a regulatory perspective.

Mike Travis and I were doing an analysis for one of the other regulatory amendments – I can't remember which one it was offhand – but we ended up just basically using the previous year's data and trying to predict behavior off of that, because there were just so many changes in the regulatory stream. This is just going to be an ongoing challenge right now.

DR. DUVAL: Just to address Sherry's concerns; it might be that the need-for-action language needs to be modified a bit, because I don't see all of these as being socio-economic. There are a few in there like increasing the minimum size limit for hogfish. That is very much a biologically based action, and that was brought forward by the AP specifically to try to address some of those concerns.

Certainly, we've heard from fishermen at different ends of the range that increasing that size limit is going to disadvantage guys in Florida, because they see smaller fish; and for folks up our way not so much, because we do see bigger fish. I think maybe some further examination of the needs' statement could help address some of that.

But then a lot of these are in response to input from the Advisory Panel; what we have heard about trying to align fishing seasons so that there is reduction in discards, so that there is less pressure on a single species at one time to try to reduce some of the derby conditions that we've really had as of recent years.

I think in response to what Scott has noted; I feel your pain. It comes hard and fast at us, too. We're trying to be responsive to the advisory panel, to our constituents, but also fulfill our responsibilities to the resource, too. It really just has been difficult since the reauthorization of Magnuson. The staff has had a tremendous amount of work to do to meet those mandates. I think some of the things that we would have liked to have addressed have really been compressed into a pretty short timeframe. I hope it gets better for all of us.

DR. CROSSON: Just to that point; I wasn't griping or anything like that. I was just pointing out the fact that the uncertainty in our economic predictions is vastly increased compared to what it used to be.

DR. DUVAL: I think that is a valid point, and I'm glad you made that on the records, because it is important for people to know that.

DR. BARBIERI: I wonder if this doesn't represent one of those things that stick out as research needs that perhaps should be showing up more consistently in some of these RFPs. Maybe it is already, but it would provide opportunities for folks to get some grant funding and have graduate students identifying some of these projects and trying to get some of these things addressed.

Are there any other comments or questions for Myra? Myra, we thank you for the overview. Moving on, we have already covered the Coral Amendment 8. Anna Martin gave us that presentation and we discussed that yesterday. I think we are ready to move on to Item 12, an update on amendments and actions.

MS. BROUWER: As Michelle said, the council has been moving fast and furious with regulatory amendments and all kinds of things. We've been trying to keep everybody informed of what is being developed, what is coming when, what is included in what, and it is quite challenging.

We incorporated in here just a little bit of background of what is coming up. Snapper Grouper Regulatory Amendment 16 is being developed to address the golden tilefish longline fishery. The endorsement program for that fishery is getting ready to go into place, which is going to diminish the fishery to 23, 27, something like that participants, which is not enough to reduce the derby conditions that have been present in that fishery over the past few years.

The fishermen have said, look, you know, those of us that ended up with longline endorsements are still having issues with the season being very short and with derby conditions out there; is there any way the council can consider a way to address this? This amendment includes right now only one action, and that is to consider things like fishing one week on and one week off or two weeks on and two weeks off and that sort of thing.

That is what the fishermen suggested. We haven't heard any other suggestions. One thing we want to do here in the near future is get all those folks together, all the endorsement holders together. Once the final rule for Amendment 18B is in place, we will be able to contact them and get them together and see if there are other things that the council can consider to address that.

Snapper Grouper Regulatory Amendment 17 is basically a placeholder for actions the council may take to designate MPAs for speckled hind and Warsaw grouper. I think you are familiar with what has been going on with that. Some of you have participated in the expert workgroup meetings that the council has put together.

In March the council decided to delay discussion of this until September of this year. At that point, they are going to reconsider mainly the purpose and need for this amendment. They didn't have a lot of time to discuss exactly what it is they want to do and why they want to consider designating MPAs for these two species. That discussion is going to happen in September.

Snapper Grouper Amendment 30 is the one that would consider VMS for the commercial snapper grouper fleet. This one, we recently had a webinar on it that went very well. Public hearings are scheduled for this amendment starting next week. As you can imagine, we have been hearing a lot of feedback from fishermen on this potential requirement. Gregg, is there anything else you wanted to add on Snapper Grouper 30? Okay, the rest of the amendments are coastal migratory pelagics and I don't know much about them because that is not what I spend my time paying attention to. I am going to skip over those.

DR. DUVAL: I was just wondering about there is a little blurb up there about Amendment 22, which was the tag-based amendment.

MS. BROUWER: Yes, Snapper Grouper Amendment 22 is one that several folks in the room have been interested in. It is the one that would consider a recreational tag program for red snapper and some of the deepwater species that have very low recreational ACLs. We're talking golden tilefish, snowy grouper, wreckfish and things like that.

We began development of this amendment last year. Again, as Michelle pointed out, the council has had other, more pressing things they have had to do, so they haven't really had a whole lot of time to devote to this. We are going to bring something back to the council probably in September, because June is right around the corner and the staff hasn't had any time to look at this. Hopefully, you will be seeing this one again in October. I know that some of you are interested in how this develops. If there are any things that you want to put out there that staff and the council need to consider before they get really going on this amendment, that would be great.

DR. LARKIN: Well, I don't have anything specific to say about how, because I am not sure how far developed it is, but I will say that the Socio-economic Committee has talked about this as an example of something that in terms of research priorities we are very interested in, because it seems like it might spread to other fisheries.

It would be a great example to do some research alongside the development and implementation of it. We want to be sort of kept in the loop as the amendment develops. It is again one of those things that we would be willing to look at sort of outside the limited time that we meet together.

DR. BARBIERI: That would be another good note. Yes, Mike, that would be another good note for us. Myra, this is one of those overview items that don't really call for any action items, but whenever we can come in and make some suggestions and observations always helps staff move that forward.

DR. DUVAL: Yes, Sherry, that is great. This is something that I am very supportive of. We've gotten a lot of comments from recreational fishermen about this program. I think any thoughts or assistance that the SEP could provide would be fantastic. I think it was September of last year that we went through and sort of quickly put in some potential options for what the tag-based harvest program would look like.

Maybe that is something at your next meeting that you guys could look at that strawman – I mean it really is just a strawman at this point, because staff has been so overwhelmed with other priorities. We welcome any input that you all have.

DR. LARKIN: I'll just say for the record, when the SEP met – I don't know, was it 2011 – we talked about this for a couple of hours I think. We were just all over it and really excited about it. That is definitely something that has been on our radar. We were going to try to find those notes. I wasn't able to, but we will recreate them.

DR. CROSSON: Yes, we've been e-mailing amongst ourselves this week talking about this. The fact is that there is certain economic data that could be gathered in this that would be of high value to future management, we feel. We want to make sure that we give useful input about how that might be collected should this come to be.

MR. CARMICHAEL: The first thing to point out is that you'll find the coastal migratory pelagic framework listed twice. It is the one under 1210 that is the correct one. The other is, I guess it is an appendix, it is residual, and it should have been deleted. We'll fix that in the report section. There are three actions dealing with the coastal migratory pelagics, 19, 20 and then a framework.

They are all marching along on a similar path. They have been underway for a while. It is kind of complicated in this fishery as we talked some about the other day, because these are joint actions with the Gulf Council. The councils have to meet, get their committees to meet together. They have to have some joint actions.

They're dealing with some complicated things, a lot of permitting requirements and quota management things. As you know, mackerel has been under quota for a long time. One thing to note perhaps is that ACLs and ACTs for cobia; they are scheduled to be in Amendment 20, it looks like here. Just keep track of how that is, because Carolyn was talking about that some yesterday, so that is where those issues should be addressed.

Then Dolphin Wahoo Amendment 5; that is going to deal with a number of issues with dolphin and wahoo; revising ABCs, ACLs and ACTs and looking at trip limits. I think this one is, yes, a similar track to go out for public hearings in August and then approval in September. The council is going to have a pretty busy set of public hearings coming up.

The reason we put this in here is to keep you abreast of what is going on, so you know where the status of these different documents are. Although there are no specific things to comment on, anytime you have an issue or you have a question about one of these, now would be the time to bring it up.

If you have looked at it and you wonder why something is being done, this is the place, bring it up. We'll continue to update you in this kind of brief manner for all of the things that are going on. If you look in that work plan document, the last page has a table of everything that is happening, and it is a lot right now.

DR. BARBIERI: Are there any questions or comments for staff regarding any and all of these regulatory amendments? John, let me, on behalf of the rest of the committee, thank you guys for actually always keeping us informed. I think it is very difficult for us on the SSC to even keep track of all these different moving parts.

That is not the stuff that we are dealing with on a regular basis. Actually getting this update and these discussions at each one of our meetings helps a lot for us to kind of understand and keep track of some of these regulatory amendments and actions. We really appreciate these updates. If there are no questions for John or Myra, I think we are ready to move on to the council work plan update, Item 13 in our agenda.

MR. CARMICHAEL: I just wanted to highlight this as kind of a companion to the item we were just talking about. This is the schedule of deliverables, and it really lists in great detail where each of these plans stand. If you ever have a question about where a management plan stands,



what it is addressing, who is responsible for it, when the council is going to look at it, what its schedule is or anything; it is all found in this document.

With all the things that are going on, obviously it is a pretty extensive document right now. It is arranged by snapper grouper so you can see here, this is all the things that are currently happening in snapper grouper; whether things that are long term are going to be a couple years or things that are hopefully very close to approval.

There are ecosystem things and a number of mackerel actions. There are things in there about the SSC meetings, future council meetings. Anything you want to know about what is going on with council should be here. What the council reviews at each meeting is in their briefing book. It will be in yours. I was referring to this schedule document here at the end.

This gives you a quick view of when the key events are happening for each plan. As I said, any time you have a question about anything, this is really kind of the source document. It guides all the council's work plans and the technical staff, what they're working on right here. It guides when we bring things to you. We look at your meeting schedule. I consult this to decide, okay, what amendments have you got to look at in this meeting? Again, this isn't any action necessary on this; just to keep you informed of what all we have going on.

DR. BARBIERI: Yes, again, very helpful. Thank you for keeping that on our radar because it is easy for us to lose track of what is going on. Having this process tied to our overview document in each one of our meetings really help us stay on top of things. Unless there are any other questions or comments for John regarding the work plan, I think we are ready to move on to Agenda Item 14 and see if we have any other business to discuss.

MR. CARMICHAEL: I have a reminder of the SSC appointment process. As you know, you are appointed for three-year terms, so we review a third of the membership each year. I just want to bring your attention that six of you are up for reappointment this year. It is your opportunity to decide if you want to say I've had enough of you guys or hopefully you will resubmit your materials and ask for reappointment. Luiz, Jim, Jeff, Steve, Churchill and George are all up for reappointment this time.

I'll be sending you a note probably next week or the week after reminding you of what you need to do; submit your updated resume and a cover letter that says you are still interested in serving. The council will review these in June. If you know of any colleagues or something you think would really bring a lot to the SSC, we are always interested in new people that are interested in joining.

DR. BELCHER: Is there a deadline for that; only because I have had a couple people ask, and I never really know what to tell them for a date to turn in. I know we solicit kind of towards June, but I didn't know if we actually had a window.

MR. CARMICHAEL: The deadline is tied to the council briefing book for June. I like to get them maybe the second week of May. I like to have them by then so we can get it in the briefing book, which goes out later in May. It is best if you tell them to contact me, because then we will provide them with the job description.

They submit a cover letter highlighting their experiences and their qualifications and noting acceptance of and review of the job description so that they understand what they are getting into. Then just a copy of their resume is fine. But it is important that everyone notes, yes, I've seen the job description and I know what is required.

DR. BARBIERI: Are there any other topics the committee members would like to bring up under other business for discussion? At some point, considering that we are moving forward at a very good pace, we might want to revisit our discussion of that assessment peer review process and basically help the existing subcommittee members, provide some input since we are all here in person, and provide some feedback as we get that document ready, But before we get to that point, how about we take a ten minute break, so let's reconvene at 10:25.

DR. BARBIERI: Let's get back to business. In terms of having some additional time for discussion, it would be good to have your thoughts, input and feedback on this assessment peer review process. I don't know how many of you had a chance to read Steve's notes and his thoughts that he distributed to the subcommittee two weeks ago. As Jim pointed out yesterday, those are just Steve's first cut at this. They don't incorporate any of the other ideas or edits or suggestions from.

But since that is the strawman that is coming from the subcommittee chair, I think the subcommittee itself might benefit from hearing from the SSC on some of these topics. We might take advantage of the time that we have now at hand to provide the subcommittee members with some of our own thoughts on this.

I guess at the end of that document that Steve prepared, there are some of the proposed criteria from Steve for initiating an SSC review. I am not going to reread all of this at this point. Maybe we can revisit some of the topics as we see fit. Let's open the floor for discussion.

MR. CARMICHAEL: One thing I think is important to clarify is it is not really – I hope you guys are not viewing this as you want to make comments to a subcommittee that is then going to hash this out. This is an SSC responsibility. The subcommittee got however far it got. As I said the other day, that is a convenience to have a subcommittee, but this is an issue that the SSC needs to resolve. We're scheduled to be here until three o'clock.

I see no reason really why this should not be able to be resolved by this group of people. It is your responsibility. I think it is kind of past giving comments to a subcommittee, which is going to mull them over and write it up in pretty words and give it back to you to then look at another time. Let's jump right into it.

At the end of the last meeting there was discussion about this. I thought the subcommittee got together at some point during that. I think it is a little more than just Steve's ideas. It is not like Steve went off and did this. He had comments from the whole committee at the last meeting and it was sort of one of the last things that was shown was I think very similar to this. He put a list up on the screen and it had a lot of this stuff, and people had a chance to mull it over.

The only thing I would say is that I think maybe we're past the subcommittee stage, and let's try to wrap this up as a group here in the time that we have; because as David said, it is not an option to have a policy. You said you needed a policy before you could review something that is out

there and exists, and you have been given time to develop that policy. Now is the time to wrap it up, because we have been talking about this for a couple of years.

DR. BARBIERI: That is a good reminder. I think our council liaison came forward yesterday and made it plenty clear that the council would like to see something come out of this committee sooner than later and some update to the council in June would be called for. The Council Chair also came up and told us, please, let's get this moving.

We need to get this issue resolved given some of the legal issues that the council has to deal with. With that, let's go ahead and open it for discussion. I can go if you guys don't have any specific comments to begin with. We can go through that list and discuss one by one. Would that make it easier?

DR. CROSSON: I agree with you; I think we can solve this today. I also wanted to point out that these are just the standards we're trying to develop in terms of initiating a review. We can certainly take a look at anything that is provided from an external source, review it and then say, no, it doesn't meet the standards and so we don't accept it. We always have that ability. These are not standards for accepting anything from an external source.

DR. BARBIERI: Scott, that is an excellent point, excellent clarification because it is this issue, it is the standards for taking something for review.

DR. BERKSON: I am enthusiastic about trying to resolve this today, too, so let's do it. I've got a couple of points from Steve's write-up that I wanted to stress that I think need to be a part of this and possibly expanded on. This is not being negative; this is being positive about these points and trying to think of how we can work these in better.

The first point is the idea that Number 1 up there, that the issue is a priority for the council; I think somehow those priorities have to be identified in advance. I think that the SSC and the Southeast Center have limited time for reviews. I think, as Steve points out, we need to work on priority items. That can't be left vague, I don't think, in practice.

If we're talking about assessments, I think the stocks that would go through a third party assessment and would justify the time for review need to be prioritized, for instance. That is the first point. Keep in mind the Southeast Center has to be involved every step of the way. This is my second point; it mentions that as part of the review the Southeast Center has to be involved.

The panel includes SSC members down under inclusiveness; SSC members, Southeast Center, SERO, states and invited outside participants. I really want to stress that the Southeast Center has to be involved, because the Southeast Center has the ultimate responsibility for certifying best available science regarding the science behind any management action.

It doesn't matter if the SSC reviews 100 assessments; if the Southeast Center doesn't review them, it is an issue. That has to work hand in hand. Any time spent with Southeast Center scientists working on these reviews will be time that they aren't working on assessments. The two processes aren't separate. Okay, so Southeast Center involvement is important.

MR. CARMICHAEL: I wanted to make a comment on the first one. I don't think what you raised is a problem with this process. I think what you raised is advice to the council that it would be good for them to establish priorities. My take on that is probably the best indication of the council's priorities is two places.

First is the research plan, because that list is primary and secondary data collection species. The priorities are going to be the primary data collection species, then the secondary, and then somewhere in there maybe a little higher than the secondary are those special species. I think the council has identified priority is there. I think if you want to see what their top stocks are for the next five years, you can look at what is on that SEDAR list. I believe the council has addressed that one.

DR. CROSSON: To that point; the council puts it on our agenda and dedicates time. The council always has the ability to dictate our agenda and what items and what standards we need to meet, in terms of accomplishing our goals. I think that it was pretty clear that when the wreckfish was put on our agenda back in the fall – I think it was the fall – that this was a very high priority for the council, and we understood that because of the regulatory issues surrounding that species.

DR. BUCKEL: Yes; just to be a little bit of a devil's advocate here to make sure it is clear to folks outside assessment scientists that might want to do something; if it is the primary species that are listed, a lot of those are done through in-house Southeast Fisheries Science Center, and obviously I wouldn't think we would want them to be a priority for outside assessment scientists; so just making sure that language is clear on the priorities.

DR. VAUGHAN: I would assume some of this outside stuff might attack some of those that we keep having trouble bringing up the list; like we've had with scamp or some of the other ones.

DR. CROSSON: You can certainly bump this down on the priority list for this discussion, but I think it is an important issue just because at least it is related to the wreckfish issue; is that outside scientists that are doing something do not necessarily have the highest level of data that an internal science center analyst has. There is an immediate disadvantage.

Actually, I'm not even sure the science center could certify something if they have better data themselves. That seems like an issue that we are going to have to attack at some point here. I don't know if that is particular just to wreckfish, but there is just certainly disadvantages that are going to be in play for somebody who is trying to do an external review – not an external review, an external analysis and present it to us; even if it is peer reviewed.

DR. VAUGHAN: Yes, certainly there was the issue with wreckfish that they didn't have the landings because there were years in which it was confidential. I guess Alec had access but Doug did not.

DR. BARBIERI: By the way, before going to the next comment; I am really pleased to see this level of engagement and excitement from the committee. Obviously, this is a very robust discussion that is encouraging to see the level of interest.

DR. BERKSON: To that point; yes, it is an obvious point that the center employees have access to confidential data that external parties wouldn't. I think that is really good incentive for the external parties to be working with center employees on these assessments so that the center employees can potentially be working with the software that the external people have put together, and plug in the right data. These assessments are going to work out better if they're done in a team setting rather than if they're done totally externally and brought in at the last minute, anyways. That ought to be encouraged.

DR. BARBIERI: Jim, I don't disagree. Yesterday or the day before, whenever we started this discussion, I said, well, I think it would help for us to have a set of criteria that identifies, sort of like a tier system of good, better and best; that there are recommendations that we make to any outside third party group that wants to submit a document for review that we recommend that if you follow these steps, your analysis is more likely to have the level of documentation that would allow for the fullest level of review by the committee; and that will maximize your chances of having a positive outcome in terms of what is there; the content of that review.

However, there is this issue about what would be a constraint; I mean, what if somebody doesn't follow? There is the best one – there is a better one where they requested some data from the Center but didn't necessarily work with the Center or SSC members throughout the process. Then there is the one that is simply somebody coming in and saying here is a ready product. Just for discussion; there are these three levels I see of submission process.

As Scott pointed out – and I thought that was a great point – if the council requests us to review those documents, shouldn't we review them? If we are not allowed, if they viewed informational content in the document is not what it should be or is not sufficient for a thorough review; we simply say, listen, this doesn't meet the minimum standards for a proper review so we cannot actually accept this analysis as it is; and then we request some specific modifications.

MS. LANGE: Back to Scott's earlier comments; I think that this procedure or process needs to be clear that these are not for SEDAR stocks. If the SEDAR is going to be held on a stock, that is the appropriate place for any outside assessment to be submitted. If SEDAR is done and someone comes back right after that and says, wait a minute, I've done an assessment on that and it's different. I don't think we should be opening the door for dueling assessments after the fact. It should be clear that this is for documents that for stocks that are not on the SEDAR schedule.

DR. VAUGHAN: No, we don't want dueling assessments.

DR. BARBIERI: That would be one of the criteria that would be there.

DR. VAUGHAN: I think when a document is submitted, though, the first thing you have to do is the report adequately written; if indeed it comes to you as a done deal. Is there the information in there to be able to judge at all levels, the data, the methods, results, et cetera. I think with Butterworth's report, we didn't know what the data was that went into the analysis. That is something I have to know what the data are that are in there.

DR. BARBIERI: Okay, let's hear a few more comments and then let's go over what we have so we can kind of start getting into the nuts and bolts of editing that.

DR. LARKIN: The title of this document is very generic. Part of the justification says it complements the SEDAR process; so is this only for biological stock assessments or not?

DR. BARBIERI: No; it doesn't have to be.

MR. CARMICHAEL: I wouldn't think so. I think that you could come up with criteria that apply to any type of analysis that you are asked to review, absolutely.

DR. LARKIN: Then I would suggest the statement about complements the SEDAR process be stricken from that one section.

DR. BARBIERI: Jim, you had some additional points that you want to go through.

DR. BERKSON: If I may; regarding Steve's Number 2; the data or data protocol had been previously peer reviewed, for example, through a SEDAR process. I'm not quite sure what that means or how that works in practice, because we know from the SEDAR process that every data workshop is unique and every stock is unique in terms of evaluating which data are appropriate for that given stock.

Do we include indices; do we not include indices; what years do we incorporate; how do we break up time series; what do we use for natural mortality, and a lot of these issues; that is one of the main reasons why SEDAR was created for the data workshop to get consensus on these things. In that context I don't know what it means that the data or data protocol had been previously peer reviewed. If it is a new stock, I am not sure.

Given that case, is it in everyone's best interest, including the person doing the assessment to not get the data reviewed until the completion of the assessment and when everything is written up; or should the data that has been selected to be put into the assessment be reviewed at an earlier stage?

This is one of the comments that I was trying to bring up – I don't know how effectively I was – but this idea that we kind of need to have an iterative process to be most effective; not necessarily 20 webinars or something like that, but at least some sort of feedback I think at the data stage at the very least to say this makes sense or this doesn't make sense. I just wanted to throw that out and get comments back from folks.

DR. BARBIERI: Well, then let me jump in and say I have been guilty myself or perhaps Florida Fish and Wildlife Commission and the Research Institute has been guilty of not following this protocol. When Michelle asked the other day about it, we have had different kinds of assessments that we brought before the SSC.

For some of them we had – you know, we always coordinate ahead of time with the SEDAR staff, the program and the schedule. The Steering Committee hopefully when it discussed the overall SEDAR process and schedule takes into account the ones – we are trying to do the ones that might have been falling through the cracks, because they are not a priority for the Center to address in terms of the limitation and numbers of staff and resources that can be directed.

We have at times done all three workshops for the assessment, sometimes, and I can tell you one very recent example, yellowtail snapper assessment. We decided that given the fact that this was going to be a benchmark assessment, but this species had been previously assessed through the SEDAR process, and then there shouldn't be any major controversy with the data inputs, nothing that would be unusual in terms of what we consider a plain vanilla assessment.

In the interest of not overspending and not spending resources in ways that would not maximize efficiency; we decided to just not have a data workshop and not have an assessment workshop. We actually requested the Center all the data inputs that came from the Center. We contacted a number of individuals throughout the range of yellowtail snapper. We submitted the data.

And because it was a benchmark assessment – and we have always kept that standard – if it is a benchmark assessment, we will not put it before the SSC unless there is a CIE review. This is one of the reasons why we coordinated with the SEDAR program. It is because we would like to put ourselves into that process where the assessment goes to a CIE review.

In this case we got three desk reviews. The reviews were submitted to the SSC. Joe came as the lead analyst for that assessment, presented the assessment and both the Gulf and the South Atlantic SSC in a joint meeting gave it thumbs up.

MR. CARMICHAEL: Yes, and I think to that, the way I read this, this is a criteria. The simple point is that if the data or data protocol have not been peer reviewed, the SSC would be saying this is inappropriate for us to take this further, because the data have not been reviewed or verified. It would stop right there.

Then the next step for you guys is to consider do you put an “if” statement in there, if this; then do you put the “then” that says is there a fallback method; is there some way that the SSC can help get that review accomplished? It says e.g. through SEDAR, but I don't think that means that it has to be SEDAR, and that therefore it would only be for something that has been through SEDAR, in which case you said, as we said earlier, you have already got the SEDAR assessment; you shouldn't be following this process.

However, there are some examples where a SEDAR-like process has been used to review data. SEDAR 4 reviewed data for I think about eight stocks. They only decided to assess two due to workload issues. There were a lot of species that have had data reviewed through specifically a SEDAR data workshop, which weren't carried through to stock assessment.

Then there are examples like Florida, as Luiz mentioned. The Atlantic States Commission; they do assessments that follow a SEDAR kind of data workshop process that is not SEDAR. The state of North Carolina follows very similar process; it is not SEDAR.

It is not out of the reason that someone could take some data that has been reviewed through one of those and conduct an assessment of it, and it comes to the council and the council asks for you guys to review it. I think there is a lot of SEDAR kind of spirit processes and there are a lot of data review things that are ongoing all around the region that could actually accommodate this in addition to you guys coming up with something where you say if this has failed; then what is the next step?

MS. LANGE: There are two different issues here. One is that we don't have enough people on state and federal staffs to do the assessments that need to be done, and the council needs to get the best science available. We are short handed, but at the same time whatever we get we want to make sure that it is the best available.

I don't see that we should be trying to eliminate people like Jim's students or some other subset or an individual state group stock assessment people that want to do the assessment. I think we need to be realistic on what data – if we don't have time to do a full SEDAR, then we don't have time or staff to do all of the full dataset reviews, all of the protocols that were done for a full SEDAR; so I think if we can set up some minimum criteria or a clearing house within the SSC or within the states or the Southeast Center or council staff for what constitutes reasonable data, and provide anybody that wants to submit an assessment that meets the first criteria, that it is something the council is waiting for, that they have a checklist; these are approved datasets and these are the contacts that you could use with the Southeast Center or with council staff.; you know, the council has major datasets that have been developed over time with input from the states and ACCSP and the Southeast Center.

Again, it is some sort of checklist that will allow them to know where they need to go to get the data, and what data has been approved in general for most stocks; and then again a checklist of assessment methodologies that has been approved, and then let them present a proposal to the SSC that these are the data that we are planning on using; these are the models that we are going to investigate. Before they go and spend a year doing a full assessment; that they at least know that they are looking at the right data sources and the right model.

DR. BERKSON: The Florida example is a great one, but I don't think that is the kind of scenario that we're overly concerned with here; I mean looking at a stock that has been previously assessed by a state agency that is primarily responsible for that stock. That doesn't cause me a lot of heartburn. What causes me heartburn is the thought of a consultant doing an assessment who has never stepped foot in the Southeastern U.S. or say a class from the University of Northern South Dakota doing a bunch of assessments and bringing them in.

The question is do we want to be able to review the data before they go to the next step; particularly if they are going to be doing something extremely complex like stock synthesis or the Beaufort Assessment Model, so that we can say – or some group, whether it is SEDAR or subgroup or whatever – it doesn't have to be SEDAR, but should there be a review step along the way other than once the whole thing is done and written up in a final document that gives some advice about the use of data and the sensitivities for things like natural mortality that should be used. These comments are not meant to be obstructionist.

As you all probably know, I was involved in the creation of SEDAR. I chaired SEDAR 1 and 2. Like many of you here, we know why SEDAR was put into place, and that was for transparency and inclusiveness; two of the main reasons why along with the peer review. I want to see that that transparency and inclusiveness is maintained; and at the same time working with stock assessment scientists, I think we owe the people doing the work the benefit of if we know they are going down a wrong path and we can stop them, we are better off and they are better off being told earlier rather than later.



DR. BUCKEL: What Anne and Jim just reiterated; the first part of the process would be a proposal that we could submit to the council and SSC for review, and the criteria that we can lay out here what would be in that proposal and that will save staff -- because someone is not going to be calling up six different people trying to find a dataset.

The proposal would come in and say this is what we're planning to get and who we're planning to get it from, but then SSC members or council staff can point them in the right direction of other data sources; so then the outside person isn't spinning wheels and bringing us something that is not up to par.

DR. LARKIN: Okay, so the way this discussion is going, I'm thinking this should be specific to SEDAR, because I originally was thinking part of this was meant to encompass cases like we used to -- you know when we used to have speakers come in and talk about research projects? Maybe I'm thinking back way too many years, but we'd have a graduate come in and talking about fishing behavior type of study that they were doing.

I originally thought that was what this was about; but now how we're talking about data specifically -- and when I first read the protocol I'm thinking, okay, as long as they -- like when I'm thinking socio-economic data, collect it in a way, like they follow Dillman's procedures. Then I don't have to see the data and I wouldn't expect to see the data, because it is proprietary.

But I would trust if they followed all these procedures that were written up, that would be okay. Maybe we should separate this out. If it is for the intent, but I almost think -- and this is sort of out of my purview when you start talking about SEDAR, but when you start asking people to come; we only meet twice a year, and to get approval for this kind of thing, are we really eliminating -- I mean, it seems like a lot of these things that come in at the last minute were done on a very short time scale.

If we put this into place where we say you have to come six months, you have to come six months later; does it make any sense? are we eliminating -- that is not how those ones that came to us have passed. These people haven't spent two years; and if you force them to spend two years, they are not going to be able to do it; so is that going to solve the problem of people bringing things to the council and saying, please look at this?

MS. LANGE: Well, again, what has happened in the past is we have come to the SSC meeting and have had a week before that an industry contractor or something has come with an assessment and expects us to review it. My understanding of this task is again there are more stocks that need assessments than we as a state, federal or whatever have staff handle.

We don't want to turn away good assessments, but at the same time we want to make sure that there is some level of rigor that goes into developing the datasets and using the models. By having a process that the council can point to, when someone comes in and says we've hired a contractor for fish stock XYZ to do an assessment for us; the council can say, that is fine, we are eager to take additional assessments, but here are the protocols that you must follow.

The first step would be to identify where you plan on getting your data and what type of models you plan on using. The council staff can look at those or they send it out as an e-mail to the SSC

or a subset of the SSC; that based on what you're presenting as your proposal, that looks fine, and here are the people you really need to contact to get the full datasets.

DR. LARKIN: Okay, so we're writing this document so the council has something to go on. Then should there be steps like here is what you say when someone approaches you? There might need to be more of those steps then if we're writing the document for them.

MR. CARMICHAEL: You're writing some guidelines to follow when someone comes with an analysis to the council and says, "Here, I have an analysis." It has been largely towards stock assessments. The council will approve it, and then it will be something that the council could say, "Okay, you want to submit this; we would like our SSC to review it. Here is our process for doing it."

Yes, there may be more steps that you add along the way, and that is what I have been trying to maybe pencil in this sort of nested thing as we go based on what people have said. The idea is that, Number 2, if the data have been previously peer reviewed and there is proof of that, then the SSC would say, fine, we can review it.

But if that is not met; then are there other alternatives the SSC comes with so the person would be told, well, if you're coming in with data that has not been peer reviewed in any other way by any other source, then here are some things you will need to do to make sure the SSC can evaluate this data and know that they are accurate.

As Jeff mentioned, having them submit a proposal, so that could be something if you are not going to use data that has been reviewed through some other source, then submit to the SSC how you plan to solve that problem and address this criteria. Another idea is a memo from the providers. If they say we're going to get our data from the Southeast Fisheries Science Center; here is a memo where we got the data, and they say, okay, will that satisfy you?

I think that is the question. I tried to put in that "or otherwise validated in a way appropriate to the analysis that satisfies the SSC." If you want to try to keep this broader, you may have different data validation criteria for different types of analyses. Yes, I think we are leading to multiple steps, and let's try to add sort of what are the criteria that would make you go right on through it and say, okay.

Then we'll get down to this next section and we'll talk about the review process and then what are the ways that people can make sure they satisfy your criteria in case you may be in a position of saying, "No, we can't review this because your data haven't been peer reviewed." We should give them some feedback as to what that means and how they can satisfy you in that regard.

DR. CROSSON: Just to state again; it is not necessarily that we can't review it. It is that we're likely to reject it if we review it, because it didn't meet certain standards. We say it is not the best available science for setting whatever catch levels.

MR. CARMICHAEL: When I read proposed criteria for an SSC review, it would be you want to satisfy these criteria. Then that says, "Okay, if you've met these; then this is cleared, we can review it." If you haven't met these things, then you may have difficulty reviewing it. If that is not the intention, then we should probably change that wording.

DR. BARBIERI: At this point, I'm not there yet. I'm waiting to play that devil's advocate in a role a little later just to see where we go. But I am wondering when we get to the point that the council decides that it needs to, through their process – and I'm not really completely familiar with that process, but the council decides we need to take this document into account.

We need to be responsive to this stakeholder group X, Y, or Z, and we are asking the SSC to review. In that case, my own personal opinion would be that we review the document, we review according to what we – and to some extent that is what we did with the wreckfish analysis. We looked at a document and we provided some feedback about the things that we felt were missing. Then we said at this point we cannot give this the thumbs up.

DR. GRIMES: Okay, I was back a few steps ago, but I'll try to remember. Other people have said this, I think, but the standards you set here need to be bracketed between have reasonable bounds. They don't need to be viewed as so onerous and difficult to meet that nobody will ever be able to do it. You will get accused of that right away.

In the lower end the bracket needs to be sure that it assures that you receive substantive documents. I guess I also want to say that talking about your proposal; that should include not just data. That ought to be how they intend, and what their analytical methods are going to be. I just would have put that higher up in the list. I think the formal proposal had to include all the things that we think it needs to have.

DR. BARBIERI: Church, in a way; I mean I see this being put out there kind of like when we are preparing a manuscript for submission to Transaction of the American Fisheries Society. The first thing we do is we go to the instruction to authors, and we find out what is expected for you to format your document according to X, Y, or Z.

Now, if I submit that manuscript to Fisheries Research; those instructions to authors are somewhat different and I have to reformat. Otherwise, the editor sends it back and says this is not meeting, you know – so I think that this will be posted along those lines. It will provide an apriori instruction to folks about the criteria that would represent those minimum set of standards for us to actually review, and then the review will stand on itself.

DR. GRIMES: I wanted to agree with the point of view that this is things that are outside of SEDAR. I don't think we want to –

DR. VAUGHAN: But I think they need to follow the basic SEDAR report writing, because that has the level of detail that we often need.

DR. CROSSON: I think your comparisons to the peer-reviewed process for a journal are very apt, and I guess great minds think alike, because that was the sort of route that I was going down. First of all, that proposed criteria for initiating SSC review, to me these are the standards for an SSC review, because again we are a technical advisory committee to the council. The council sets our agenda, decides what the membership consists of and so they're the ones who give us tasks.

Now, you talked about the editor of a journal doing sort of a desktop rejection. They get something; and they know that if it goes out to the reviewers, it is going to get rejected immediately. They say it is not even worth the time, no, you go do something else. You go back and do more work; you document your methodology or your statistical techniques better. Okay, good so that has been changed. Again, I don't think it should be too onerous.

I don't think it needs to follow the full SEDAR process. It is just the council should be very aware when we set up these guidelines, like you said, when you look at a journal and the journal says these are the things that you need to make sure you are going to do, if you are going to submit this manuscript to us; I think we need to document these out. If you don't meet those, then you may very quickly find yourself on the rejection pile.

MS. LANGE: To you and Scott's point and also to Church's; first off, the journal approval, I think we need a step prior to that. When you submit your final review, then the review of the overall assessment goes through the step ICIS process, but the first step should be a proposal. If they send in this is what we plan to do – and again we can do that through an e-mail. It doesn't have to be at a full SSC meeting or it could be a subset of people or it could be staff, but I think there should be a proposal that we first off say, yes, what you're proposing to do meet our initial criteria. That doesn't mean we're going to approve the assessment when it is done.

DR. BARBIERI: I know, but let me ask you a specific question to that point, Anne. You are saying that this is an absolute requirement that unless there is a proposal ahead of time, it will not meet the standards for SSC review?

MS. LANGE: No, what I'm saying is to save their time.

DR. BARBIERI: Right; likelihood of approval is a different thing. I think we're starting in discussing the good, best, better and the best. Some are the minimum –

DR. LANGE: Well, for me, if I were an outside person wanting to get an assessment that the council was going to follow; I would like to know ahead of time, before I grab my little bit of data and do my little assessment, that my little bit of data is adequate, that my model is adequate. I would like to get a seal of approval that my plan – not that the SSC is going to approve it in the end, but that my plan of attack is going to meet muster.

If I came in with a graduate student and I was just going to use North Carolina's inshore survey for toadfish and do my assessment on that and spend six months doing it and bringing it in; and we'll say that doesn't meet the criteria; you are not looking at good data; you are not looking at a full species range or fishery range. I guess to me doing a quick review of the data and the intent of the assessment; and then the second part is the actual assessment.

DR. BERKSON: Okay, there is good reason to do that in terms of a proposal first and to make it a requirement. That is in terms of time effectiveness and efficiency both for the person doing the assessment as well as the SSC. If we are able to look over a proposal and give our comments in advance, it will be a lot less grief for us to go through these reviews after the fact.

We can make these changes and suggestions up front; and if people don't follow them, it will be very easy to do the review. In terms of our time that we are going to spend on this, which I am

trying to make most efficient, I think that makes a lot of sense. If I was the stock assessment scientist doing this work, it would definitely make a tremendous amount of sense to me to find out up front what the SSC thinks is appropriate and what isn't prior to going to all the work. I don't see any negatives at all to this. This is a total win-win for everybody involved.

DR. BARBIERI: Right; and I don't disagree. The issue is in terms of submitting the proposal; at some point we're going to have to come to some conclusion here on whether this is a suggestion to maximize the likelihood of this being reviewed and maximized; or if it is an absolute requirement. I can tell you, I never submitted for any of the assessments that we do –

DR. VAUGHAN: You wouldn't need to; you were in the process.

MS. LANGE: Well, the second point that I was going to make before relative to Church's comment was I think that he's right that there should be one line that says proposal. They need to include in that what their plans are for their data and what their plans are for their analysis. The step would be first off it has to be something the council sets a priority.

The second one is they have to submit a proposal of what data they plan on using, how they plan on getting it and getting it validated, and what methods they want to use. Then from there, once they get it completed, then there is the actual review of the assessment itself.

DR. VAUGHAN: My comment would be that it would be highly recommended to submit a proposal; because I would suggest that if they do not and then we just see the final report at the end, I would say it is highly likely it will be rejected.

DR. BARBIERI: To Doug's point – and this is just one opinion. This is why it is a committee, because everybody gets to express their opinion. Doug's opinion is that it is recommended but not necessarily required; is that true?

DR. VAUGHAN: I'm sure we'll get some that come out of the blue. If they do, then I would say I don't know what their expectation would be; but unless they've been through some sort of process with this, then the likelihood of acceptance I think would be poor.

MR. CARMICHAEL: I think we should be careful; and specifically to this recommend versus require, there are people out there who could do work who have not heard of us. There are fishermen in the Southeast Region that I meet all the time and they say, "I had no idea who you guys were or what you were doing."

We're not as well known amongst the whole world maybe as we think sometimes. I would hate to see that some grad student at a university does some work on something that ends up being relevant, and we would say, no, we're not going to review this because they didn't come to us with their proposal first.

I think we should be precautionary with this. I could very well see something like that and the council coming in or our legal counsel saying, "You can't do that." They could strike that right away. I think we should definitely be careful and not start tying people's hands by being very restrictive up front.

DR. BARBIERI: By the way, there is absolutely no question given that the Regional Council Management System was set according to federal legislation and represents a public process, that it has some requirements in terms of public participation, transparency and a number of legal requirements, that all of this, my experience, seeing what I go through with legal counsel in the state of Florida; this would have to be reviewed by legal counsel as well in terms of how the council is operating; their operating procedures.

DR. BERKSON: I wanted to mention that the people proposing to do work who get our comments back should be told they don't necessarily have to follow our comments, but they do so at their own peril. Obviously they're going to be in much better shape and that the likelihood of acceptance is going to be much higher if they follow our suggestions.

DR. BARBIERI: This is a good point, but this is part of what we're trying to bring up. When we say required, we wouldn't review that otherwise. Another thing is to say these are guidelines and if you follow this, your likelihood of success, like Doug pointed out, is exponentially higher. I think the document comes out of here and goes to the council for their consideration at the June meeting should have clear, procedural steps that are in line with what the council is trying to accomplish. I've seen this as a critical clarification here.

MS. LANGE: My understanding was we're doing this exercise because the council asked us specifically to set up a procedure, a protocol that they could use because they have gotten assessments out of the blue and there have been some legal concerns about whether or not they were considered adequately.

To me, I think it is in our purview to say that for us to consider reviewing, spending our time at an SSC meeting to review an assessment; that we have some protocols that should be followed. The first one is that we want to make sure that you're on the right track and that you're going to be using appropriate data and appropriate models.

If we don't say that, then we have not in my view solved the issue that we were asked to address, which is getting out of the blue an assessment that we're going to take time out of our very short schedules to have to review. To me, the biggest issue that I think any of us have with assessments being good or bad is whether or not they're using the appropriate data and/or the appropriate models. To say that we shouldn't be able to require that be included, I don't think it addresses what the council has asked of us.

DR. BARBIERI: I personally don't disagree one bit, Anne; but having worked as senior staff for a state agency for the last 15 years, I have had legal counsel and the Inspector General's Office really overrule my personal feelings about how to proceed on these things. I do work for a state agency and I have to follow procedure that is in accordance with state statutes. I'm just saying I would imagine that the regional council system has to function according to federal legislation that has specific legal guidelines for procedural.

MS. LANGE: To that point; that is something that comes down the road. We're asked to provide our recommendations as an SSC. From my perspective, my recommendation would be that if an outside group – again, the situation where you're talking about a state who is participating in this process, like Florida or North Carolina or South Carolina, Georgia that have

the staff and they've been involved in the process; that is a little bit different than a total outside group that is not part of the system coming up with an assessment.

From my personal perspective, I think we should require that the first step be that they submit to the council or to the SSC a proposal that describes where they are planning on getting their data and what methods they are going to be using. Otherwise, come six months later, we're going to be required to review an assessment that we don't consider reviewable or appropriate.

DR. BARBIERI: I understand that, Anne. I'm just saying don't be surprised if things come back and there is something that overrules our own recommendations. That is all I'm saying.

DR. DUVAL: This is your conversation. I was wondering, going back to John's comment about not everybody knows that this body exists, and so if they are conducting – you know, if you have a doctoral student who does some assessment of a particular species, I think it doesn't necessarily preclude that person or people who have done that study from filling out the form that Anne is suggesting that they do; here is where I got my data; here are the models that I used.

It is an after the fact kind of thing, but I see this being kind of a form that was filled out that could be presented to the SSC. I don't think it precludes someone who has already done something from providing all that information that you're suggesting they included in there. Sorry to interrupt.

DR. GRIMES: I don't think this is a major comment, but I really don't see where you are going to get into problems with GC or somebody like that for requiring a proposal format. For God's sake, every Sea Grant, NSF, on and on and on; it is very common to require a specific form that you want to see things in. I don't see why we couldn't do that.

DR. BERKSON: Yes, I think that makes a lot of sense. There is nothing to stop someone from submitting the proposal and the piece of work on the same day or a week apart. It is probably not in their best interest, but they could. The nice thing would be I still think it would be easier for us time-wise to review the proposal than to review the product after the fact.

We could look at the proposal. If there are a lot of problems, we point it out relatively quickly, and give it back. Whether the person is finished the work or not, then they would go back and alter it if they wanted to increase their odds of getting it approved. I think that makes a lot of sense.

DR. BELCHER: I understand there is basically a two-pronged approach to this. You've got people who have already done work and they're coming in and want a review of the work as a counter argument or counter position to an assessment that may have been done or is in the process of being done.

But I think on some sense, just because of having dealt with trying to get academicians involved in helping with applied fisheries; I don't see how this idea of people coming in saying how they are going to do the approach; we're not paying them to do the work. If someone comes in and says, it would be nice to be involved in recreational fisheries on wreckfish or reef fish, and they come in to us and all of a sudden there is this litany of things that they are going to have to do; and it is like, well, are you going to help foster this?

That is where to me I feel like you are going to shut down more outside involvement. The only folks that you are going to start seeing are the ones who have already taken a counter position and thinking that they have an alternative approach to what is being done. I really think we're going to find more of that as opposed to someone coming in and saying we want to approach this, and we're starting from the ground up. Then there is no incentive for them if they see this huge complex thing, public involvement. Jim is shaking his head in disagreement.

DR. BERKSON: To that point; it is not meant to be punitive or obstructionist. It is meant to be a positive experience that will help guide them to be successful with their work.

DR. BELCHER: When was the last time you had public input on anything that you did for your research? I'm just asking because if that is part of that requirement, that is kind of putting an –

DR. BERKSON: With my student's research, I try to get interactions with as many scientists as possible as early in the process to get feedback, so that we do the best job we possibly can on the science. You don't go to the student's committee after the fact, after the work is done and then say do you think this is done correctly? You go to the student's committee during the proposal stage to get the feedback. I talk to state scientists and federal scientists at that stage to get the feedback. It is not designed to hamper the student; it is designed to make sure the student does the best job possible.

DR. BARBIERI: Okay, I understand it. Here is what we're going to do. In terms of required versus recommended, when we get to that point, let's get over this discussion about recommended or required. We are going to have a show of hands before we wrap up the discussion to see if there is consensus or if there is division within the committee regarding what would be required versus recommended, because obviously we have differences of opinion here, which is wonderful. That is what brings the strength to this committee.

DR. YANDLE: I can't wait to see the transcript of this. I think we're getting caught up here between process and standards. A lot of the objections I'm hearing is about the process being too long and too drawn out and too painful. Why can't we have set standards that are well publicized up on the website, wherever, and this is what we want in order to meet what we consider best available science, which we are charged with reviewing?

If you don't use these data sources – it seems to me listening to the discussion the data source is the main area of concern, possibly methods; then it is not going to be looked at favorably; and then we are not requiring people to delay the research or anything like that. We are just saying here is what it is. Ideally people check it out ahead of time, go like, oh, I need to add in this data or, oh, okay, I'm not going to. I think this can be simplified. I am hearing people sort of diverge to two extremes. I think there is a way to simplify and have the standards and not have the painful process.

MS. LANGE: I guess Tracy just sort of ended that discussion. Again, I don't see that what we're asking is overwhelming. If a graduate student or another group wants to do an assessment and they're just doing it; then they didn't necessarily intend it to be used for recommendations for management. If instead a graduate student or an individual wants to do something for management, I would hope they would at least contact the council. If that were the case, the



council would say “We’re looking at getting best available science. Our SSC is the body that advises us on best available science, and they have a protocol set up. Here are the guidelines regarding looking at your datasets, your models and how to follow the process.”

DR. LARKIN: Okay, it’s going to be déjà vu. The more we talk the more I think is this really what we’re talking about? Our major concern I think it is going to be work coming from consultants for the sole purpose of affecting how we set ABCs, and OFLs, so we should write it for that regard.

There is a difference between people coming to the council and saying I’m doing behavioral work on fisheries, it might be social science; you should look at it; it might help you give them a presentation; and a group that comes in for a sole purpose. Graduate students are charged with looking at novel techniques.

They wouldn’t get past, if it is whatever step it is now, the one about methods that have been published; they are working on things that might not be published. I think there really are two different objectives of when something is submitted to the council. I get the whole approving the data beforehand if the purpose is that this is information that is going to go into setting those decisions.

DR. BARBIERI: Sherry, I think that is an excellent point because this is what I’m seeing, too. We are trying to lump into this a “one size fits all.” The reality is what we’re looking for here is how to handle consultants’ analytical work that is submitted to the council; I mean, specifically what was done for wreckfish and the like. We have beaten this horse into a pulp.

MS. LANGE: I guess I would just ask our council members if that is the issue; is that what we were tasked with to address, consultants or any assessments that come in from the outside that weren’t initiated by the council or council staff?

DR. DUVAL: David can speak more to this, but I think everything that we’ve gotten so far has really been from outside consultants. I think Sherry hit the nail on the head when she said you know these are from folks who are looking for modifications to ABCs that have already been set. Perhaps David has some more light to shed.

MR. CUPKA: That is basically certainly what we’ve seen to date. It was never intended to be anything broader than assessment type work. Although I know we ask you to review other types of scientific data, but it is really focused on assessments from outside consultants who either want to challenge something that we’ve done or provide some suggestion.

Hopefully, it will be on species that we haven’t been able to get to through the normal SEDAR process, by providing other options for people outside SEDAR to contribute to that process, but they certainly need to meet certain criteria. We would want them to have certain things in what they submit before we waste your time and anybody else’s time in reviewing that.

It is important to let them know what we expect ahead of time; again, as I think Jim has pointed out just from an efficiency standpoint so they don’t waste their time and we don’t waste your time looking at something that is not going to meet a certain set of specifications or minimum

specifications or whatever. That is kind of what we hope would happen and it remains to be seen.

We've talked about this a lot at the SEDAR Steering Committee level, and I think we're going to see more assessments of this type being provided, what we call outside assessments; which could be a good thing if they're done to meet certain basic criteria. Hopefully, this process will provide them the opportunity to do that. I suspect a lot of it is going to be consultant, driven by industry groups wanting to see some decisions looked at more closely or certain management actions taken.

DR. BARBIERI: To Sherry's previous point or a couple three points before that she made, perhaps what we can do here is start development of those standards or criteria that would be focused on this third party assessment, being focused on consultants that are submitting –

(Remark made off the record)

DR. BARBIERI: It could be; but in terms of the criteria of the standards, that is what we're going to be looking for. Mike, I think you have been taking a lot of notes, and it might be good for us to review those notes as well as review the draft set of standards. Actually, I think that Mike's notes might be more documenting the tone of the discussion and the different opinions.

It might be more helpful for us to focus on going at those standards; that number of standards. Number 1, the issue is a priority for the council; this should justify the expense of the SSC review. Number 2; recommend submitting to SSC a proposal for data and analysis in advance. These are John's notes; the SSC is divided as to whether this should be a requirement or a recommendation. Do we need to have a show of hands here to have a better idea?

How many on the committee would see this proposal for data and analysis in advance as being an absolute requirement for the assessment to be reviewed? Is there anybody who doesn't agree with the proposal being a required standard for the SSC to review document or stock assessment?

That goes in as it is not recommend submitting to the SSC, it is require. Unless there is a proposal – and we have consensus on this, unless there is a proposal that is submitted to the council ahead of time, the SSC will not agree to review the document.

DR. BERKSON: Like I said. I wouldn't have a lot of heartburn if the proposal came in the same time as the work. It is really dumb, it doesn't make a lot of sense, and it is not in the person's best interest, but our first job would be to review the proposal. If we had problems with the proposal, we wouldn't need to go and review the work itself potentially.

That is what we need to decide. I don't know what "in advance" means, whether we're talking 12 hours, 12 months. The key is we want a review that short – you know, that document that lays out the approach before we actually go to the work of reviewing the 200 page, 100 page whatever.

DR. BARBIERI: Okay settled, right. Anne, is this an additional point? We need to move this along, and we keep justifying – we have had a lot of discussion already.

MS. LANGE: No, this is totally separate. I don't think we should have that this should justify the expense of the SSC review in there. It is an issue that is a priority to the council, period.

DR. BARBIERI: Number 3; the data or data protocol needs to be previously peer reviewed and validated; example; through a SEDAR type process or otherwise validated in a way appropriate to the analysis that satisfies the SSC. If Number 2 is not met, then there is no – because now it is a requirement. We can flesh out this as a document later. Do you have a point?

DR. BELCHER: I kind of have a question, because the one thing that does come to mind to me is an outside source submits for confidential data and is denied that versus a SEDAR approach, which we've never been shut down on data. Does that automatically mean that third party will not be considered if they do not have access to every data point that is out there, because it is not based on best available science? I mean, they happen to be shut out of it. It is not because they are ignoring it.

DR. BARBIERI: That is exactly what the committee is saying.

MS. LANGE: Well, I don't know that is necessarily true. They can get summarized data like annual catches; maybe not for every species or every port, but I think the Southeast Center can provide or the staff here can provide annual data or data by gear. Again, I don't know on any specific case, but I think there are some instances where the data would be available to outside sources.

DR. BELCHER: I'm thinking like from the standpoint of what we've just dealt with, with landings-only data. We actually as the SSC have not been able to see the actual numbers of landings, because we have not been granted confidential access to that data. I mean, we've not even – like I said, we're recommending based on a procedural outline what number we suggest it to be, but we don't know the exact poundage.

We are not being that specific on it, because we can't see it on a confidential basis. There are situations where there are data points that aren't available. Even with a full catch series, you are going to have years that aren't available. Then at that point what does that individual do? I don't know if that is the case, but you do have to think about that counter as to what if they get shut out of data? Does that mean at that point they are completely shut down?

MR. CARMICHAEL: Yes, I just wanted to point out I think here what we should focus on is some – it has become guidance on how you get validation; could it be a memo, could it be an SSC review, could it be a SEDAR style data workshop? I wanted to remind folks there are data sources that might be robust enough that they are accepted.

Someone could say I am getting the data from ACCSP. Someone could be doing a stock assessment of a species that is primarily found off of North Carolina, and they would be getting the data from DMF and carry a memo from a biologist and a trip ticket data provider that says we provided this individual data and it was complete and accurate up through this particular date.

Depending on the analysis, that may satisfy you. Somebody wants to do an analysis of a stock that goes from the entire range of the coast and involves all the jurisdictions; it is obviously

going to be much more involved, and that is where I think the proposal comes in. It is up to them to tell you how they proposed to do it, and you apply your knowledge and decide whether or not their proposal is adequate. You can give them some direction that they could consider as means of achieving this step.

DR. BARBIERI: Okay, those bullet points that we have under Item Number 3; since we have a general agreement on the main basic principles, we can flesh out as we put that document together.

MS. LANGE: I think 3 and 4 and maybe 5 should be pushed over and be part of 2. The proposal addresses the standards that follow; so that is the content of the proposal, right?

DR. BARBIERI: There are some criteria that are outlined there. We are going to be able to provide some more detailed input or add some additional ideas, whatever, when we get to the document part of this.

DR. BERKSON: Yes, the last bullet I actually think is part of the review process, because you can't really be talking about – I guess you could talk about the diagnostics you are going to do, but often you don't know what those diagnostics are until you actually have done the work. You obviously can't talk about interpretation, so I would make that the following step.

DR. REICHERT: That was one of the points I was making. I also think that some of the detail in the two remaining bullet points may be too much for this proposal in terms of having everything validated and stuff like that. I think for the proposal it should be sufficient to let us know or the council know what the plans are. I think that is much more important than having it already signed off and stuff like that.

DR. BARBIERI: Right; and I think that is the general idea is that in the proposal this would be outlined – you know, described about how the plans are to have the data validated.

DR. LARKIN: How do you decide whether something has been successfully applied to other stocks?

DR. BARBIERI: In this case we're going to have to exercise our expert judgment based on our professional experience and having methods that have been applied to other stocks and survived peer review, either CIE or otherwise, and that will be the case. Well, I think that in terms of the main principles, we are there.

That is basically what we are trying to get general concurrence here. I will go ahead and communicate directly with Steve, send the revised summary to him. I'll try to outline what the main discussion points had been and ask him to redraft a document that can be distributed to everybody. Hopefully, this will be submitted either as an addendum or an appendix to our report, which should be in the council's briefing book for the June council meeting.

MR. CARMICHAEL: That was sort of the first part of this; that was the criteria. The second part of this was the actual peer review process that you guys follow. We should probably go through a similar exercise as we just did to describe how you would handle this peer review

process, and who will do it. Are you going to do it during a meeting or are you going to do it with a subgroup prior to a meeting?

DR. BARBIERI: Right; and we can discuss this, but personally in the interest of time here, I wonder if this review would be an SSC review similar to the review that we did yesterday. No, you disagree?

MR. CARMICHAEL: Yes, I disagree a little bit, because the whole reason we got here is because people said it is not the same as reviewing an assessment that has already gone through an external peer review and already gone through a process or even an update where it is something that was externally peer reviewed. Really, what we just did to me is like the preamble.

The meat of this was supposed to be what is your process for peer review; because there is a lot of discussion about we can't do that at a meeting, we need to have a subgroup. Remember we had a subgroup look at wreckfish, and then we didn't. Then we had another wreckfish come in and we couldn't look at that; and this is more than we could do at a meeting and all that stuff. To me, that is the real meat of what it is that we need to address.

MR. CUPKA: It seems to me there are two types of reviews involved. One would be a review of these proposals; and then the second one would be what we more normally think of a review, which is a review of the assessment itself. It may be that a small subgroup of this SSC could be tasked with reviewing the proposals rather than using everyone's time. If they agree to proceed with that, then obviously the assessment review can be brought back to the full group. It seems to me there are two types of review involved in this process.

DR. VAUGHAN: I sort of like what Dave said except for the stock assessment review. I almost see it as a little more involved in that we might want to meet for a full day on just reviewing that stock assessment, or a day and a half. Normally we know what goes through the SEDAR process, and we're pretty comfortable and familiar with what comes out of it.

Depending on how far out in the blue these assessments are that we're going to review, even though it has gone through the first part there with the proposal, et cetera, we might want to have a little more time to really look into the nuts and bolts of that assessment to feel comfortable with it. There are always tricky things that can be buried in there. I wouldn't want to just do a couple hour review on something that I am less familiar with the process through which it comes to us.

DR. BERKSON: To go with Steve's suggestion up here; I think for the actual review, he has a list of folks that he suggested be part of the review process, and it includes Southeast Center, SERO – stakeholders, I think, or maybe not, I can't remember – states and invited outside scientists; there we go.

I would think that we would want to create a panel that would include the folks that he has suggested, whether it is a new committee, an ad hoc committee, or whatever. This is what you would expect out of a peer review process is that group right there. I mean that would be an open meeting, anyone could attend, but those scientists would be the ones that would be actually

conducting the review and not just the SSC; given the importance of this and the fact that it hasn't gone through a regular SEDAR process.

MS. LANGE: I agree with that; I think that there should be a subset of SSC members as well as the Science Center. As Jim mentioned earlier today, the Science Center is going to have to be the one that puts best available science on it beyond us. Having a subset maybe meet the day before or the morning before the SSC meetings and have that group report to the full SSC, as a SEDAR panel would.

MR. WAUGH: Luiz, just a question; if you are going to continue with that composition, you might just want to elaborate on why you want the region there, because they are in charge of management; the Center, science, and to me that is mixing the two.

DR. BARBIERI: I completely agree. Great point, Gregg, thanks.

DR. BERKSON: I'm glad you mentioned that, Gregg, because I think that is a good point. I would probably delete the region, because certainly they would be present as an observer. It would be an open meeting and they could attend, and they would probably want to have that background by attending, but they wouldn't be participating in the actual review.

DR. REICHERT: Unless these are the required participants, I would add the CIE because there may be assessments where you want to involve them in an external review.

DR. BARBIERI: Invited outside scientist.

DR. REICHERT: Well, yes, if that is captured under the invited outside scientists, then I'm cool.

MR. CARMICHAEL: Anytime we have a group, we need to know who is going to decide who is going to be on the group. Will this be something the council would perhaps decide?

DR. BARBIERI: I would follow the same type of process.

MR. CARMICHAEL: Any open public meeting we do, a Federal Register Notice is required. Yes, everything SEDAR does is Federal Register noticed, even the webinars.

DR. BARBIERI: John, I feel it is one of those things that should be coordinated through SEDAR as well and council staff; because as a matter of scheduling the meetings in a way that – I mean it would have to be coordinated in a way that we're not interfering with the regular SEDAR review or participation by the SSC.

MR. CARMICHAEL: You should know when the SEDAR things are going on and you should consider that; but given that this is a council process, it should not be coordinated by SEDAR, because SEDAR serves three councils, two branches of management and two commissions.

DR. LARKIN: I think we need to say who is responsible for doing this.

DR. BARBIERI: It has to be the SSC. This is our process that we're outlining here, right? No, the SSC is a council committee and therefore we have staff assignments that helps us with those administrative issues.

DR. REICHERT: I think we may want to discuss how before we go to discuss when. Then if we ended up doing this as part of a regular SSC meeting, I would say at minimum so all the documentation can get into the briefing book. I think it is more important to say, okay, how are you going to do this, because that may determine whether the ultimate review is going to be part of our regular twice a year SSC meeting or whether that would be an additional meeting or process.

DR. BARBIERI: Absolutely; and it cannot be coordinated with the SSC meeting. We just had this happen in the Gulf and it was kind of a disaster. It was done the day before of the SSC meeting, meaning that the review panel didn't have the time to have a report that would be provided to the SSC.

As a committee, this is going to have to follow the same briefing book document submission protocols that we have like any other stock assessment. It is going to have to be done as a separate meeting, through a webinar or whatever method is deemed more practical. I think we are going to have reporting requirements very similar, and that is going to be included in the briefing book. Well, how is there; open public meeting, obviously. There should be a Federal Register Notice. Yes, what protocol?

(Discussion off the record)

MR. CARMICHAEL: Well, no, because this isn't a normal thing. A normal thing would be they bring their document to the SSC meeting and you review it. This is kind of a separate protocol so we need to talk about how you wish to do it.

MS. LANGE: Sherry, to your point, I think this is our process. The instructions that go to the people that might be submitting these things, I don't think are going to be worried about this. They will get specific instructions. They don't need to know about the Federal Register. They just need to know that when they get their assessment done, we have set up a meeting or the council has set up a meeting for them to present their results on a certain date.

The fact that it gets mentioned in the Federal Register is irrelevant to them. This is a process that we as a part of the council group have; but what the people that are going to submit their proposals or their assessments aren't involved in this part. They will just be told when you finish your assessment; we've got this scheduled for you to present it here.

MR. CARMICHAEL: I put that in there, because it is a placeholder for timing. There are strict deadlines about noticing Federal Register, so that is going to have an impact on when we get to the when and when we get to that. We'll probably delete it when we get there, because it is considered an administrative placeholder so we don't forget.

DR. BARBIERI: Would anybody disagree that we accept a webinar presentation if we have the document ahead of time? Yesterday we reviewed three assessments presented through webinar, and we agreed that even though it wasn't the ideal mode that it was acceptable.

MS. LANGE: I think on a case-by-case basis. If things look really complicated and the SSC comes back and says, you know, we really need to be able to sit down and talk with this person directly to get questions answered; then it may not be appropriate, but I don't see that it should be excluded as an option.

DR. BARBIERI: Right; and that is the point; it is an option that can be considered. I think what John is trying to do here is make sure that we have agreement on all the parameters; because even though this may not be explicit in terms of the specific guidelines that are going out to people, so we understand how the thing is actually going to work out and we are comfortable with that.

In my opinion if it is through the CIE – and this is open for discussion, but if it is done through the Center for Independent Experts as a desk review, to me that suffices, because the Center for Independent Experts has already predetermined criteria. This is public and available on their website for anybody to review on qualifications for reviewers and their standards and protocols for functioning, reporting and everything else. To me, a desk review from a CIE reviewer would suffice. Would anybody disagree with that?

DR. BERKSON: Remind me what the role of the SSC would be then. We would then take the CIE reviews and we would review those and approve; is that how that would work?

DR. BARBIERI: Yes; it is similar to what we did with yellowtail snapper, right?

DR. BERKSON: I just want to make sure that the SSC is always in the process and that folks knowledgeable with the stock and the area are part of the process.

DR. BARBIERI: I think this is being outlined as – you know, we're discussing how the assessment would be pre-reviewed before coming to the SSC, so all of this is

MR. CARMICHAEL: That's why this is a sub-item under D. This is a way that you may fulfill the outside scientist input through a CIE desk review; all the other stuff still stands.

DR. REICHERT: We now involve the SSC in the entire SEDAR process, and there was a very specific reason for that. Would we want to consider a similar philosophy looking at the CIE desk review and request that maybe one SSC member would be selected or asked to review that in addition to CIE? It is just a consideration.

MR. CARMICHAEL: You would get like a written review from an SSC member in addition to having SSC members on your panel?

DR. BARBIERI: The SSC is already involved in this process. The same way that right now for a SEDAR review; SEDAR review involves a combination of a couple or three SSC members plus CIE reviewers.

MR. CARMICHAEL: What Marcel was trying to clarify is that we said there is going to be a panel; it is an SSC Chair; it will include SSC members. It may include these folks and it should include some outside people. As a way of getting input from outside people and perhaps not



having to have them travel and all of that stuff is you could have a CIE desk review to fulfill their input. This doesn't stand in place of any of the above. It is a way of achieving this.

DR. BARBIERI: By the way, this is how a couple weeks ago we just reviewed – the Gulf SSC Panel for SEDAR 28 for Spanish mackerel and cobia did exactly this. There were three CIE reviewers that submitted reports. We met as an SSC Panel, as a SEDAR Panel to review. Those reviews had presentations and the whole thing.

DR. BERKSON: Yes; do we want to require that the outside scientists be CIE; and by the parentheses on that line that is what it looks like to me. You might want to put like e.g. CIE, because if you're talking about like students doing assessments, you are not going to want to pay that kind of money to get CIE reviewers.

MR. CARMICHAEL: If we would put CIE there as scientists provided by the CIE, then that would have required it. It is just an example.

DR. BARBIERI: Well, XX there – we are going to jump into the when – XX weeks before SSC; I would say it has to be at least four, because you need the SSC Chair for that panel to have some time to write their report and then get it to us two weeks ahead of time. There should be a minimum four-week precedent. This is the problem that happened with the review of SEDAR 28. This was the day before; my deadline to write the review report is next Wednesday.

MR. CARMICHAEL: How about if it is completed five weeks before the SSC; then that gives you time to make your report. That gives you two weeks to do your report; it gives us two weeks to give it to you; and it gives us actually maybe a day or two to get it into the briefing book documents and get it out to the SSC.

DR. BARBIERI: Perfect for me.

DR. REICHERT: This may be something we've already discussed, so remind me, but this automatically means that ultimately there are two times a year where we review those outside stock assessments. That is at our regular SSC meetings.

DR. BARBIERI: Yes, that is a good point. My assumption had been that, yes, just like any of the other assessments that come; it comes to the SSC meetings and we meet in April and October, but we might want to be explicit there.

DR. REICHERT: I just wanted to make sure that we clarify that.

DR. ERRIGO: The review meeting can happen anytime, and there can be as many of them during the year as you can possibly fit; as long as the final products are ready for the SSC briefing book for whatever meeting they are going to be looked at -- completed.

DR. REICHERT: Exactly, but I just wanted to make sure that I can foresee situations where the council may want an advice on an external stock assessment prior to our SSC meeting. Currently we say we only review those final products at our regular SSC meeting.

DR. BARBIERI: But that is what we were saying right there.

MR. CARMICHAEL: The council can always ask you to hold a separate meeting if they wish to incur the expense.

DR. BARBIERI: Is there anything else that we need to cover there? By the way, John, to that point that you are writing there; I am thinking going up in that proposal, perhaps, something that Carolyn had pointed out yesterday about the terms of reference. The review panel's report is going to really be addressing terms of reference; just like what we do now for SEDAR.

To your last question in terms of follow-up work, additional projections – and this has been a problem in the past when we had contracted folks to do assessments that they felt that follow-up corrections addenda and supplemental work was not covered by the funding that had been originally provided, and we were left hanging without the projections that we needed. In this case, this is something else that perhaps will have to be identified in the terms of reference that corrections of addenda and supplemental work are part of this process.

MS. LANGE: Well, I think it should be stated that if the person wants their assessment to be considered for management purposes, they have to be willing to address issues that come up by the SSC or by the review, including any corrections or updates or supplemental work.

DR. BARBIERI: Exactly. Like yesterday if we didn't have those projections; Katie is going to have to supply projections for Spanish mackerel. If we don't get those projections, there won't be OFL and ABC specifications for Spanish mackerel. In that case, if there is no followup in terms of providing those projections, we are just not going to have the products for the SSC to review to inform our recommendations to the council.

MS. LANGE: I guess that needs to be clear as far as the process for anybody that wants to submit their assessment for management purposes.

MR. CARMICHAEL: One thing to notice – and I think we probably need it – is that if you hold this review and for some reason the extra work isn't done and maybe you needed something change or you found a correction that was necessary; if that isn't completed, then obviously the SSC is not going to be able to consider it at their meeting – if it is not completed and given to you, the full SSC, at your two-week deadline so you had time to do the review that is necessary.

DR. BARBIERI: I really think we are there. I cannot think of anything else that we would need. The one thing in terms of the proposal perhaps, for example, because we follow that with our own assessments that we will submit to the SSC, is we follow the report preparation format provided by SEDAR. It is just because that includes a number of items there that we wanted to make sure they are consistent with the way the SSC sees those.

MR. CARMICHAEL: The part that is now lacking is we've discussed the nuts and bolts of the proposal process, we've discussed the peer review when it is done. So we have a proposal that has come in to you; how are you going to handle it? Will it just be a regular SSC meeting item or will there be some sort of subgroup that will look at this in advance? It will be something that could just be done whenever they come in. We could have a group of people we could say, hey; here it is, review it; write your comments; maybe we'll hold a webinar and get it to the SSC.

DR. REICHERT: We don't need to open that discussion, but I felt that a required proposal was too strong; I would say recommend. If we require a proposal –

DR. BARBIERI: We have already gone through that.

DR. REICHERT: I know, but I just want to have that on the record. If we require a proposal, then I think we should have the full SSC have access to that proposal and comment. I don't think we should do it through a subgroup.

DR. BERKSON: I don't think we should limit it to regular SSC meeting times, because then someone might have to wait five and a half months to get feedback. Like I said, we don't want to be obstructionist. I think it should be passed out to the full SSC, and then SSC members who want to comment should be allowed to; and then one person maybe alternating or whatever should be responsible for collating the comments. I don't think there should be a standing committee or anything like that, because on any given stock, any given issue there might be different people who want to be involved and have input.

MS. LANGE: I agree; I think that it should be e-mailed out to everyone as soon as it is received, with a little explanation; yes, this is something the council feels is important. Then people get their comments back; and those that are most interested in that stock or have the most knowledge of the issue can provide their comments. It may be that we need to discuss it at a full SSC meeting if it rises to that; if it is not clear what the consensus is from e-mails.

DR. BARBIERI: Is that every SSC member is provided an opportunity for comment; is that –

MR. CARMICHAEL: We've just said everyone; you want the full SSC to do this. You're willing to send it out by mail. My experience from doing this for a little while is that we send lots of things out by mail and very few of you comment. I think something that you're asking people to do, this nature of proposal and this type of thing; I'm not going to be very satisfied if I send this out and I get a comment from one person and they say that proposal was inadequate.

That is useless to us and that is going to bring this entire process straight to its knees. If we're going to do this as a mail review where you are free to review it or not, comment or not, it is not going to work. If we're going to send it out and we're not going to hold a conference call, a meeting; I am going to require that each and every one of you send me a comment that says yay or nay or we've got to talk about this at the meeting.

DR. REICHERT: Thank you, John, and I think that is why I asked that specific question. If we require this proposal, then I think we as an SSC have the responsibility to take those proposals serious and comment on them.

DR. BERKSON: Perhaps there are two options or more. One might be we have a conference call after we have had a chance to review the proposal so we all get on and discuss it. The second option would be that there be a standing committee to review the proposals and comment on it, but everyone in addition has the option of looking at it and providing input to that standing committee. That is just two options to throw out on the table.

MS. LANGE: I would also suggest that there be some queue words in the subject when we get our e-mails so that we know that this is something that requires SSC member response or something like that.

MR. CARMICHAEL: If it comes from me, then you should consider it probably requires a comment or is important. I don't think I send you a lot of fluff. I don't share jokes with you.

DR. VAUGHAN: I was just going to say I think the conference call is probably the best way, but the alternatives are certainly acceptable under the circumstances.

DR. BARBIERI: I would say everyone;; we invite everyone to participate in the conference call and we try to schedule it. It is part of our job description; there are some requirements for meeting attendance and this is one of those. We are setting up these criteria here.

MS. LANGE: I agree a conference call, after we've had time to review it and people get back maybe with just general comments that everyone gets a copy of. If you look at it and say this looks great and someone else more familiar with the particular stock says, wait a minute, they are not looking at this data, then we have an opportunity to see that before the conference call.

MR. CARMICHAEL: Conference call, Federal Register Notice, four weeks. If it comes in today, we could schedule the conference call in four weeks. I can schedule it and whoever shows up can, or I can give you a week to comment on it and now we're out five weeks. I can give you a week to tell me when you can meet and then we get it set up.

Maybe we convene a conference call; earliest would be five weeks, maybe six to be practical. I've been in experiences where we send; hey, we need to hold a meeting as quick as possible; when can you be there? Sometimes it takes a week for people to reply. It probably would be six weeks after it is received at the council.

DR. REICHERT: Procedural question; so if everyone in the SSC said this is a fantastic proposal, this should definitely be done; do we need a conference call in all cases?

DR. BERKSON: Well, I think like John was pointing out, you wouldn't know whether everyone was basically saying this is great or no one had bothered to look at it. By forcing the conference call, you actually force people to have a somewhat intelligent conversation.

DR. BARBIERI: If there is major consensus like you said; it shouldn't take but 15 minutes.

MR. CARMICHAEL: Yes; in lieu of a mandatory response, we will provide it to you, schedule a conference call and then you can discuss it. Then at least we have you verbally saying how you feel and everyone has an opportunity to participate. The next question I have I guess is if there is a regularly scheduled meeting, say, three weeks after we get one of these in, it could make your briefing book deadline and all that good stuff; we could just add it to the agenda for the schedule meeting?

DR. BARBIERI: Absolutely. You're covering all the bases; aren't you?

MR. CARMICHAEL: I might have done this a time or two. I think that covers it.

DR. BARBIERI: All right, I think we're there. I think we have and the ones that we haven't, keep in mind that this is going to be fleshed out a little bit. As it is already, I think is fairly comprehensive.

MS. LANGE: You had mentioned early on that once we as an SSC got this together, we would be sending it to Steve to get him as a subcommittee chair to do it. I think we're there.

DR. BARBIERI: No, absolutely, yes. This is when John actually jumped in and reminded me that according to council direction we are supposed to have this sooner than later. All of us will have the opportunity; as I circulate our draft report for your review and comments, please make sure that you add comments and editorial suggestions to this as well. My feeling is having moved forward – and again, thank you, John, for holding our hand and helping us basically get this.

MR. CARMICHAEL: More like a pitchfork.

DR. BARBIERI: Right – get this completed, because now I can see this going in as an addendum to our actual report, if not an integral part of it, which means that is going to go to the council's briefing book in June, and that means mission accomplished. I think that covers that item and puts us into a few less items on our agenda before we adjourn.

Report and recommendations review, I think we can do this by e-mail when the time comes. Having seen the level of notes that Mike submits, I think we have something here fairly solid to go as a draft report. We have another opportunity for public comment at the end of the meeting.

MR. HUDSON: I'm Russell Hudson; representing East Coast Fisheries Section. As a wind-up comment, I appreciate the fact that you made this protocol as far as written comments submitted a week before, also the opportunity to speak to the SSC before and after; and hopefully it will be useful for you as we go into the future.

I had been a member of the Marine Protected Area Expert Working Group. Churchill and Vice-Chair Ben Hartig had also been participants. In the analysis we had asked them to include the expanded habitat area of particular concern for the Oculina that is going to be carried forward north to almost St. Augustine from Cape Canaveral.

Rock shrimp, Deepwater Shrimp Advisory Panel and the Habitat and Coral APs all met last fall. We were in attendance there, also, and we were able to get them to consider the impacts to the snapper grouper fishery. Because the analysis is still ongoing within the council for the socio-economic impacts, Coral Amendment 8 does not include any of that.

The accumulative effects are extremely important because of the amount of regulations that we've had impacting us in the last three years in particular; that then in combination with some of the work that was done '11, '12 to try to deal with some of those areas by SEFIS, and also the VMS points that are still in the process of being included in this document; the fact that the VMS process that they wanted to, so to speak, coincide with all of this effort for the coral amendments and potential MPA expansions or realignments; all of that is a work in process.

I am kind of concerned that the Socio-economic Panel of this SSC body is not able to work with this document correctly at this time. In fact, they are not even technically meeting at this time. We believe that the September idea of a deadline – and that is a month before you actually meet again, October 22 and 23, I believe; that the SEP should meet the day before that at least to consider all of these things that are going to be going on between now and October; and then delay any actions with Coral Amendment 8 until the December meeting, to be able to make sure that they've covered their bases. I think that is an important feature.

We are very concerned at having brought industry scientists and panelists into the previous SEDAR 25 process for black sea bass and golden tile, that black sea bass was just updated, which we're glad, because we got some great results here; it is good for the fishermen, keeps them fishing; but golden tile is not even penciled in until 2015.

And now with the addition of scamp, the lack of analysts, and the lack of the ability for outside analysts to be able to be brought into the process at this time, the 2015 date of golden tilefish is about as far down the road as that can be kicked. We need to keep golden tile update for the schedule for 2015.

That is all done in-house now when it's an update, without our participation as updates in the past had been. Industry scientists are important to us to be able to interact with any of the SSC scientists, any of the CIE scientists. The FTP site, as I said, is like when you're dealing with a working document, I know it is a document in process, it is not a final, but our scientists have to have that ability.

I even thing the NGOs would agree that their scientists need to have the ability to be able to participate. That is why I also said about SEDAR 41 for red snapper coming up; we need a physical meeting for the assessment. They saw it was good enough to do for SEDAR 31 for red snapper in the Gulf, and I believe it is useful. That is an important feature.

The last thing I am going to talk about is what you just got through talking about for the last hour and a half. As you know, this body had to make some decisions with third highest landing streams for the wreckfish. It is a very minimal fishery as far as the amount of people that participate; but they – and if you want to give it the idea of “pseudo catch share”, it was an IFQ system established a long time ago.

Doug had been a participant in one of the last assessments in 2001 for the wreckfish. We had a 2 million pound quota going in. We came out of it with an 88, 89 percent reduction, great impact on the potential, particularly in light that this process started in '10 with the potential of having that alternative that they've spent hundreds of thousands of dollars and many decades participating in. We ratcheted down the situations with the bottom longline. They've built their own style reels, they have their coupons and all of that type of stuff, and the fleet is a certain size fleet.

But suddenly this past year, our first year of operating under this great reduction; we wind up getting two trips in with one particular outfit right there in my backyard in Port Orange, the season is over. They weren't able to stretch that out. Right now they are still waiting on their coupons and the season opens April 15, and NMFS is trying to get it to everybody.

That is an important fact that when you look at your third highest landings, then within NMFS they came in with a DC-AC. We had to work with a subpanel, because I was an observer of the SSC, and we wound up developing some ideas with a DC-AC, but it wound up reflecting a lot of what had already more or less been established by the third highest landings.

Alec McCall had been asked by the Science Center to produce the DB-SRA. It had basically been asked a couple years previous. It had been brought forward at another SSC meeting when we as the industry engaged a contractor, Doug Butterworth, to be able to do the analysis with what he considered a data-rich landing stream; not too much different from golden tile, because it is basically a fishery-dependent data source.

Not a whole lot of independent stuff there, and Marcel knows I'm in his corner. I want him out there doing 100 hook, 20 hooks, any of that type of stuff that helps us get as the Science Center calls the golden standard going. SEFIS needs to do the same thing. Cameras ain't going to do it all and chevron traps in those depths definitely ain't going to do it. I'm sorry about using ain't.

The reality is that Chairman David Cupka stated last year, this year, the vision from 10 years ago was that the SEDAR was going to be a way to be able to accommodate the common species that the Science Centers normally deal with and maybe some of the less common species. Right now wreckfish is penciled in for 2016. It has already been kicked down the road a couple of times.

By the time you go through an entire process, you are another year and something down the line with management choices and stuff. The impact is seven years long for this 89 percent reduction to these industry participants, and only a handful of them. I thought that when we had a little bit of a meeting just about the ideas of being able to bring in some of the SSC people, a CIE desk review, the industry scientists, work with the data, the CPUE stuff, of course, the confidentiality; we've been working on taking those situations into play and adjust to all that.

But right now your protocol I understand with regards to future things is a great move; but in the meantime we, out of desperation of trying to keep fishermen fishing and to keep these people's investment vital to them fluid, that we were out of time. Whenever all the decisions were made with the Comprehensive ACL Amendment, we're out of time.

I don't see the Science Center with four analysts, when we were promised six analysts on a full-time staff, capable of doing a full benchmark and an update each year; now we're just not doing it. Somehow, and maybe with us working with Richard Merrick and stuff here lately, we might be able to bring in some outside help; and it is needed especially in the South Atlantic Council Region.

It has just been deplorable the lack of independent data gathered in our particular region, particularly down in the southern ranges. We need to be able to emphasize this to the leadership in NMFS, and to the Congress, and to be able to get some funding to get some help with their science, because we cannot keep taking this abuse. That is pretty much all I have to say.

I was a little disheartened that certain important SSC members weren't able to be here at all, and some others can't be here at this moment. After the fact of all this discussion, some of them aren't here; and they have great participatory influence on the discussion around the table. I believe that the whole body was put together several years ago to be able to have the best

discussion, the best scientific minds and the best economic minds and everything else to be able to know that we're looking after the fisheries. I know we're looking after the fish, but we can only manage the fisheries. With that said, thank you very much.

DR. BARBIERI: Thank you Rusty. Your comments have been acknowledged and are entered into the record. Are there any other members of the public who would like to provide comment at this time? Well, seeing none; we'll move on to our next agenda item, which is about our next meeting. John, do you want to jump in with that?

MR. CARMICHAEL: Yes, I'll read you what's there. October 22, here in Charleston, and it sounds like we'll probably look into holding an SEP meeting prior to that. Then in 2014, we're looking at April 22 through 24; October 28 through 30; pushed back a little bit in April from this year and maybe the past year because of the SEDAR schedule to try and put a little more time and make sure we got all the documents you need for the assessments that are going to be reviewed in April.

DR. BARBIERI: Regarding the 2014 schedule; I usually do this and it helps a lot with my planning. I go into my Outlook Calendar and I enter those dates and I block those dates right away. We forget about those things, and eventually things come up and so I would definitely encourage you to do the same.

I guess that is it. Are there any other comments, questions or concerns, recommendations from the committee? Before we are adjourned, let me thank all of you for taking the time to attend the meeting. This has been an extended meeting with the ORCS Workshop and has involved a lot of work.

I think that this has been one of our most productive meetings, so many thanks for your bearing with the ORCS process and helping us get there and staying the course through completion here with all the agenda items plus the three stock assessments; and then what we did today in actually developing those guidelines for the third party assessment reviews.

It has been great. As always, thank you, Michelle, our council liaison for taking the time to come and participate in this process. It is a big help for us to have council members come to our meeting and to count that you're going to be here to help us discuss these issues. I know you are probably as busy as any of us.

DR. DUVAL: It is helpful for me to be here. It helps to have your perspective when we're discussing items around the council table. I had great backup with the council chair and vice-chair here. I very much appreciated their attendance as well.

DR. BARBIERI: Yes, Chairman Cupka and Vice-Chairman Hartig, thank you for taking the time to be here and provide all the input and guidance that you have provided; staff, of course, who really hit it out of the park. You guys really make our jobs easier. Many thanks to all of you for the presentations and all the stuff that you do for us. I think the meeting is officially adjourned.

(Whereupon, the meeting was adjourned on April 11, 2013.)



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May 2013

# South Atlantic Fishery Management Council

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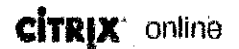
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| 45                     | Takade-Heumacher, ... | <a href="mailto:htakade@edf.org">htakade@edf.org</a>                   | 81 min            |
| 44                     | Williams, Erik        | <a href="mailto:erik.williams@noaa.gov">erik.williams@noaa.gov</a>     | 19 min            |
| 43                     | c, m                  | <a href="mailto:mec181@yahoo.com">mec181@yahoo.com</a>                 | 47 min            |
| 40                     | Sedberry, George      | <a href="mailto:george.sedberry@noaa.gov">george.sedberry@noaa.gov</a> | 73 min            |
| 40                     | Crabtree, roy         | <a href="mailto:roy.crabtree@noaa.gov">roy.crabtree@noaa.gov</a>       | 4 min             |
| 32                     | Yin, Zoe              | <a href="mailto:zoevin@aol.com">zoevin@aol.com</a>                     | 80 min            |
| 30                     | Mahood, Bob           | <a href="mailto:robert.mahood@safmc.net">robert.mahood@safmc.net</a>   | 68 min            |
| 29                     | Mehta, Nikhil         | <a href="mailto:nikhil.mehta@noaa.gov">nikhil.mehta@noaa.gov</a>       | 48 min            |

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| 73                     | Andrews, Katie       | <a href="mailto:kate.andrews@noaa.gov">kate.andrews@noaa.gov</a>     | 454 min           |
| 71                     | Brisse, Claire       | <a href="mailto:cmbrisse@gmail.com">cmbrisse@gmail.com</a>           | 240 min           |
| 71                     | Prawrawldjaja, Mi... | <a href="mailto:mskhong@emory.edu">mskhong@emory.edu</a>             | 56 min            |
| 70                     | Williams, Erik       | <a href="mailto:erik.williams@noaa.gov">erik.williams@noaa.gov</a>   | 390 min           |
| 67                     | Nelson, Paul         | <a href="mailto:captpaul1966@aol.com">captpaul1966@aol.com</a>       | 27 min            |
| 62                     | Austin, Anthony      | <a href="mailto:redress@ec.rr.com">redress@ec.rr.com</a>             | 500 min           |
| 59                     | Coggins, Lew         | <a href="mailto:lew.coggins@noaa.gov">lew.coggins@noaa.gov</a>       | 283 min           |
| 58                     | Bell, Mel            | <a href="mailto:bellm@dnr.sc.gov">bellm@dnr.sc.gov</a>               | 138 min           |
| 54                     | Larkin, Michael      | <a href="mailto:michael.larkin@noaa.gov">michael.larkin@noaa.gov</a> | 464 min           |
| 54                     | Swatzel, Tom         | <a href="mailto:tom@swatzel.com">tom@swatzel.com</a>                 | 77 min            |

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| 52 |               | Sherzer, Kyle    | <a href="mailto:kyle.sherzer@noaa.gov">kyle.sherzer@noaa.gov</a>       | 334 min    |
| 51 |               | Di, Rebecca      | <a href="mailto:rdi721@gmail.com">rdi721@gmail.com</a>                 | 44 min     |
| 50 |               | Craig, Kevin     | <a href="mailto:kevin.craig@noaa.gov">kevin.craig@noaa.gov</a>         | 455 min    |
| 50 |               | hull, James      | <a href="mailto:hullsseafood@aol.com">hullsseafood@aol.com</a>         | 255 min    |
| 49 |               | crabtree, roy    | <a href="mailto:roy.crabtree@noaa.gov">roy.crabtree@noaa.gov</a>       | 417 min    |
| 48 |               | Rudin, Sam       | <a href="mailto:samrudin@comcast.net">samrudin@comcast.net</a>         | 37 min     |
| 47 |               | Mehta, Nikhil    | <a href="mailto:nikhil.mehta@noaa.gov">nikhil.mehta@noaa.gov</a>       | 434 min    |
| 44 |               | Langseth, Brian  | <a href="mailto:brian.langseth@noaa.gov">brian.langseth@noaa.gov</a>   | 202 min    |
| 42 |               | Sedberry, George | <a href="mailto:george.sedberry@noaa.gov">george.sedberry@noaa.gov</a> | 450 min    |


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| Qrest Rating ▼ | Name                  | Email  | In Session |
|----------------|-----------------------|--|------------|
| 40             | Hudson, Rusty         | <a href="mailto:dsf2009@aol.com">dsf2009@aol.com</a>                           | 189 min    |
| 39             | Cheshire, Rob         | <a href="mailto:rob.cheshire@noaa.gov">rob.cheshire@noaa.gov</a>               | 370 min    |
| 37             | carmichael, john      | <a href="mailto:john.carmichael@safmc.net">john.carmichael@safmc.net</a>       | 512 min    |
| 36             | DeVictor, Rick        | <a href="mailto:rick.devictor@noaa.gov">rick.devictor@noaa.gov</a>             | 474 min    |
| 29             | Fitzpatrick, Eric     | <a href="mailto:eric.fitzpatrick@noaa.gov">eric.fitzpatrick@noaa.gov</a>       | 208 min    |
| 28             | e, m                  | <a href="mailto:mec181@yahoo.com">mec181@yahoo.com</a>                         | 318 min    |
| 28             | pugliese, roger       | <a href="mailto:roger.pugliese@safmc.net">roger.pugliese@safmc.net</a>         | 431 min    |
| 26             | Helles, Frank         | <a href="mailto:fhelles@verizon.net">fhelles@verizon.net</a>                   | 278 min    |
| 25             | Port-Minner, Saman... | <a href="mailto:sport-minner@oceanconserv...">sport-minner@oceanconserv...</a> | 283 min    |
| 20             | Mahood, Bob           | <a href="mailto:robert.mahood@safmc.net">robert.mahood@safmc.net</a>           | 0 min      |

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Webinar Attendees

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|---|----------------|-----------------------|--|------------|
|   | 70             | Scott, Alison         | <a href="mailto:ayscott@emory.edu">ayscott@emory.edu</a>                       | 2 min      |
|   | 54             | Carter, Claire        | <a href="mailto:ccarter@emory.edu">ccarter@emory.edu</a>                       | 3 min      |
|   | 48             | Mehta, Nikhil         | <a href="mailto:nikhil.mehta@noaa.gov">nikhil.mehta@noaa.gov</a>               | 72 min     |
|   | 44             | c, m                  | <a href="mailto:mec181@yahoo.com">mec181@yahoo.com</a>                         | 219 min    |
|   | 39             | Collier, Chip         | <a href="mailto:chip.collier@ncdenr.gov">chip.collier@ncdenr.gov</a>           | 88 min     |
|   | 39             | hull, James           | <a href="mailto:hullsseafood@aol.com">hullsseafood@aol.com</a>                 | 164 min    |
|   | 39             | Ludlow, Ivan          | <a href="mailto:iludlow@emory.edu">iludlow@emory.edu</a>                       | 82 min     |
|   | 38             | Sedberry, George      | <a href="mailto:george.sedberry@noaa.gov">george.sedberry@noaa.gov</a>         | 225 min    |
|   | 34             | Korobkov, Margarit... | <a href="mailto:mkorobk@emory.edu">mkorobk@emory.edu</a>                       | 88 min     |
|   | 30             | Port-Minner, Saman... | <a href="mailto:sport-minner@oceanconserv...">sport-minner@oceanconserv...</a> | 179 min    |

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| 39 |               | hull, james           | <a href="mailto:hullsseafood@aol.com">hullsseafood@aol.com</a>                 | 164 min    |
| 39 |               | Ludlow, Ivan          | <a href="mailto:iludlow@emory.edu">iludlow@emory.edu</a>                       | 82 min     |
| 38 |               | Sedberry, George      | <a href="mailto:george.sedberry@noaa.gov">george.sedberry@noaa.gov</a>         | 225 min    |
| 34 |               | Korobkov, Margarit... | <a href="mailto:mkorobk@emory.edu">mkorobk@emory.edu</a>                       | 88 min     |
| 30 |               | Port-Minner, Saman... | <a href="mailto:sport-minner@oceanconserv...">sport-minner@oceanconserv...</a> | 179 min    |
| 27 |               | g, a                  | <a href="mailto:andrea.grabman@safmc.net">andrea.grabman@safmc.net</a>         | 167 min    |
| 26 |               | pugliese, roger       | <a href="mailto:roger.pugliese@safmc.net">roger.pugliese@safmc.net</a>         | 90 min     |
| 25 |               | Ryu, Diane            | <a href="mailto:drv3@emory.edu">drv3@emory.edu</a>                             | 77 min     |
| 24 |               | Rice, Anna            | <a href="mailto:arice5@emory.edu">arice5@emory.edu</a>                         | 70 min     |
| 20 |               | Mahood, Bob           | <a href="mailto:robert.mahood@safmc.net">robert.mahood@safmc.net</a>           | 0 min      |

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