

1 GULF OF MEXICO FISHERY MANAGEMENT COUNCIL

2
3 STANDING & SPECIAL REEF FISH, MACKEREL, SHRIMP, AND
4 SOCIOECONOMIC SCIENTIFIC AND STATISTICAL COMMITTEES

5
6 Gulf Council Office Tampa, Florida

7
8 March 13-14, 2019

9
10 **STANDING SSC VOTING MEMBERS**

- 11 Joseph Powers.....
- 12 Lee Anderson.....
- 13 Luiz Barbieri.....
- 14 Harry Blanchet.....
- 15 David Chagaris.....
- 16 Benny Gallaway.....
- 17 Bob Gill.....
- 18 Douglas Gregory.....
- 19 Jeff Isley.....
- 20 Walter Keithly.....
- 21 Robert Leaf.....
- 22 Camp Matens.....
- 23 James Nance.....
- 24 Will Patterson.....
- 25 Sean Powers.....
- 26 Kenneth Roberts.....
- 27 Steven Scyphers.....
- 28 Jim Tolan.....

29
30 **SPECIAL MACKEREL SSC VOTING MEMBERS**

- 31 Jason Adriance.....
- 32 Kari MacLauchlin Buck.....
- 33 John Mareska.....

34
35 **SPECIAL REEF FISH SSC VOTING MEMBERS**

- 36 Jason Adriance.....
- 37 Judson Curtis.....
- 38 John Mareska.....

39
40 **SPECIAL SHRIMP SSC VOTING MEMBERS**

- 41 Richard Burris.....
- 42 Peyton Cagle.....
- 43 Thomas Shirley.....

44
45 **SOCIOECONOMIC SSC VOTING MEMBERS**

- 46 Kari MacLauchlin Buck.....
- 47 Jack Isaacs.....
- 48 Andrew Ropicki.....

1		
2	<u>STAFF</u>	
3	Matt Freeman.....	Economist
4	John Froeschke.....	Deputy Director
5	Lisa Hollensead.....	Fishery Biologist
6	Ava Lasseter.....	Anthropologist
7	Ryan Rindone.....	Fishery Biologist & SEDAR Liaison
8	Charlotte Schiaffo.....	Administrative & Human Resources Assistant
9	Carrie Simmons.....	Executive Director
10		
11	<u>OTHER PARTICIPANTS</u>	
12	Shannon Cass-Calay.....	SEFSC
13	Roy Crabtree.....	NMFS
14	Michael Drexler.....	OC
15	Aubrey Foulk.....	NEU
16	Tom Frazer.....	Florida
17	Kelsi Furman.....	NEU
18	Sue Gerhart.....	NMFS
19	Alisha Gray-DiLeone.....	NMFS
20	Rick Hart.....	NMFS
21	Michelle Masi.....	NMFS
22	Julie Neer.....	SEDAR
23	Kelli O'Donnell.....	NMFS
24	Jeff Pulver.....	NMFS
25	Mike Travis.....	NMFS
26	Lauren Waters.....	NMFS
27	Yuying Zhang.....	FIU
28		- - -
29		

TABLE OF CONTENTS

1
2
3 Table of Contents.....2
4
5 Table of Motions.....3
6
7 Introductions and Adoption of Agenda.....4
8
9 Approval of SSC Minutes.....8
10
11 Selection of SSC Representative at April Council Meeting.....9
12
13 Review of SSC Operating Procedures.....9
14
15 Review of SEDAR Stock Assessment Executive Summary Components...24
16
17 Updated Gray Snapper Projections at F26 Percent SPR.....37
18
19 Review of FMP Objectives.....82
20
21 Review of Gulf Sector Allocations.....97
22
23 Review of Generic ACL Carryover Amendment.....101
24
25 Update on NOAA RESTORE Activities.....119
26
27 Stock Status Review of Gulf of Mexico Shrimp Species.....141
28
29 Review of Red Snapper Management Strategy Evaluation Tool.....155
30
31 Revision of ABC Control Rule.....173
32
33 Selection of SSC Volunteers for SEDAR 68.....179
34
35 Update on NOAA RESTORE Activities (Continued).....184
36
37 Adjournment.....189
38
39 - - -
40

TABLE OF MOTIONS

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

PAGE 59: Motion that the Gulf gray snapper OFL and ABC yield streams presented by the SEFSC for F 26 percent SPR, F 30 percent SPR, and F 40 percent SPR were computed with the same statistically appropriate methods. The OFL yield stream for a given SPR proxy represents 50 percent of the retained catch PDF for that proxy. The ABC yield stream for a given SPR proxy represents a P* of 0.4 applied to the retained catch PDF for that proxy. This P* resulted from the application of the Gulf Council's ABC Control Rule. [The motion carried on page 70.](#)

PAGE 71: Motion that, while the SSC acknowledges that 26 percent SPR is scientifically acceptable as a proxy for MSY, the SSC still prefers the earlier recommendation of 30 percent SPR, because of the uncertainty in the assessment, so we prefer to go forward with this more risk averse measure. [The motion carried on page 82.](#)

PAGE 118: Motion that the SSC moves council request that the SEFSC include periodic underages and overages of the ACL in the simulations for carryover. [The motion carried on page 119.](#)

PAGE 154: Motion that the SSC moves to accept the Gulf of Mexico brown, pink, and white shrimp assessment updates through 2017 as the best available science. [The motion carried on page 154.](#)

- - -

1 The Standing & Special Reef Fish, Mackerel, Shrimp, and
2 Socioeconomic Scientific and Statistical Committees of the Gulf
3 of Mexico Fishery Management Council convened at the Gulf
4 Council Office on Wednesday morning, March 13, 2019, and was
5 called to order by Chairman Joe Powers.
6

7 **INTRODUCTIONS AND ADOPTION OF AGENDA**
8

9 **CHAIRMAN JOE POWERS:** Thank you. Good afternoon. My name is
10 Joe Powers, and I welcome all of you as the Chair of the
11 Scientific and Statistical Committee of the Gulf of Mexico
12 Fishery Management Council. We appreciate your attendance and
13 input to this meeting.
14

15 Representing the council is Tom Frazer, who is sitting over
16 there, and council staff in attendance are John Froeschke, Ryan
17 Rindone, Carrie Simmons, Matt Freeman, Lisa Hollensead, and
18 Charlotte Schiaffo, and we'll introduce people as we go around.
19

20 Notice of this meeting was provided to coastal newspapers
21 throughout the area, Marine Extension and NMFS port agents and
22 the Federal Register. Notice was also sent via email to
23 subscribers of the council's press release email list and was
24 posted on the council's website.
25

26 The meeting will include the following topics which are on the
27 agenda there, and there are -- I am not going to list all of the
28 items, but they are on the agenda, and the agenda is available
29 to the public.
30

31 This webinar is open to the public and is being streamed live
32 and recorded. Summary minutes of the meeting will also be made
33 available to the public. For purposes of voice identification,
34 each member is requested to identify him or herself, starting on
35 my left.
36

37 **MR. RYAN RINDONE:** Ryan Rindone, Gulf Council staff.
38

39 **DR. BENNY GALLAWAY:** Benny Gallaway, LGL Ecological Research
40 Associates.
41

42 **DR. JIM NANCE:** Jim Nance, Standing SSC.
43

44 **MR. CAMP MATENS:** Camp Matens, Louisiana.
45

46 **DR. LUIZ BARBIERI:** Luiz Barbieri, Florida Fish and Wildlife.
47

48 **DR. WILL PATTERSON:** Will Patterson, University of Florida.

1
2 **DR. JEFF ISLEY:** Jeff Isley, Standing SSC.
3
4 **DR. ROBERT LEAF:** Robert Leaf, University of Southern
5 Mississippi.
6
7 **DR. STEVEN SCYPHERS:** Steven Scyphers, Northeastern University.
8
9 **DR. SEAN POWERS:** Sean Powers, University of South Alabama.
10
11 **MR. JASON ADRIANCE:** Jason Adriance, Louisiana Wildlife and
12 Fisheries.
13
14 **DR. JACK ISAACS:** Jack Isaacs, also of the Louisiana Department
15 of Wildlife and Fisheries.
16
17 **DR. WALTER KEITHLY:** Walter Keithly, Standing SSC.
18
19 **DR. KEN ROBERTS:** Ken Roberts, Standing SSC.
20
21 **DR. LEE ANDERSON:** Lee Anderson, Standing SSC.
22
23 **DR. KARI MACLAUHLIN-BUCK:** Kari Buck, Socioeconomic and CMP.
24
25 **DR. TOM FRAZER:** Tom Frazer, Gulf Council.
26
27 **MR. BOB GILL:** Bob Gill, Standing SSC.
28
29 **MR. JOHN MARESKA:** John Mareska, Reef Fish and Mackerel SSC.
30
31 **DR. JIM TOLAN:** Jim Tolan, Standing SSC.
32
33 **DR. JUDSON CURTIS:** Jud Curtis, Reef Fish SSC.
34
35 **DR. SHANNON CASS-CALAY:** Shannon Calay, Southeast Fisheries
36 Science Center.
37
38 **CHAIRMAN POWERS:** Thank you. In the back?
39
40 **DR. AVA LASSETER:** Ava Lasseter, council staff.
41
42 **DR. JOHN FROESCHKE:** John Froeschke, council staff.
43
44 **MS. SUSAN GERHART:** Susan Gerhart, NOAA Fisheries.
45
46 **MS. ALISHA GRAY-DILEONE:** Alisha DiLeone, SERO.
47
48 **MR. JEFF PULVER:** Jeff Pulver, SERO.

1
2 **MS. KELLI O'DONNELL:** Kelli O'Donnell, SERO.
3
4 **MS. LAUREN WATERS:** Lauren Waters, SERO.
5
6 **MS. KELSI FURMAN:** Kelsi Furman, Northeastern University.
7
8 **MS. AUBREY FOULK:** Aubrey Foulk, Northeastern University.
9
10 **DR. MATT FREEMAN:** Matt Freeman, council staff.
11
12 **EXECUTIVE DIRECTOR CARRIE SIMMONS:** Carrie Simmons, council
13 staff.
14
15 **DR. LISA HOLLENSHAD:** Lisa Hollensead, council staff.
16
17 **CHAIRMAN POWERS:** All right. We also have, on the webinar, a
18 couple of people. Harry Blanchet.
19
20 **MR. HARRY BLANCHET:** Harry Blanchet, Standing SSC.
21
22 **CHAIRMAN POWERS:** Also Andrew Ropicki.
23
24 **MR. ANDREW ROPICKI:** Andrew Ropicki, Socioeconomic Panel.
25
26 **CHAIRMAN POWERS:** Thank you. We also have a couple of just
27 general business items. First off, lunch is being carted in at
28 about 11:30 or so, and so we'll pick an appropriate time to
29 break for lunch and have that lunch. Secondly, the sign-up
30 sheet for those that are attending is being passed around, and
31 so make sure, for the SSC members and Special SSC members, make
32 sure you sign up for that. We also have another person on the
33 webinar, Doug Gregory. Doug, can you identify yourself?
34
35 **MR. DOUG GREGORY:** I am here. Can you hear me?
36
37 **CHAIRMAN POWERS:** Yes. Thank you.
38
39 **MR. GREGORY:** Good morning.
40
41 **CHAIRMAN POWERS:** We have the agenda in front of us, and we've
42 gone through introductions, and now we have the approval of the
43 SSC minutes for the January 9, 2018, which was done by webinar.
44 Ryan just reminded me that we need to actually adopt the agenda,
45 which brings up the other thing, which is there's a couple of
46 additional items for Other Business. Ryan had mentioned that,
47 for other business, we need to deal with some of the SEDAR
48 scheduling issues. Ryan, you can you mention what those are?

1
2 **MR. RINDONE:** Sure, and so, from the government shutdown, some
3 of the projects were delayed a little bit, and there's been some
4 shuffling of the schedule, and so I will just go over those with
5 you guys during Other Business and make sure all those who
6 previously said they would be available would still be
7 available.

8
9 **CHAIRMAN POWERS:** The other agenda item under Other Business is
10 Kai Lorenzen, who is unable to be here, who is the Vice Chair,
11 and he's also the representative to the committee that's dealing
12 with the National SSC planning for the National SSC Meeting,
13 which will be next year, and he's been involved in a couple of
14 phone calls, and there isn't a lot of progress, but I will
15 mention some of the things that have come up with that. With
16 that, can I have a motion to adopt the agenda?

17
18 **MR. GILL:** So moved, Mr. Chairman.

19
20 **CHAIRMAN POWERS:** Did we have a question?

21
22 **DR. MACLAUCHLIN-BUCK:** I wanted to ask if we could move up Item
23 VIII, Review of the FMP Objectives, before -- Just up one, so
24 that the discussion about the FMP objectives comes before some
25 of those amendment and council decisions.

26
27 **CHAIRMAN POWERS:** Okay. That's my mistake, and there was a
28 request for Agenda Item VIII, to make it become Agenda Item VII
29 and make Agenda Item VII become Agenda Item VIII, and that's
30 essentially what you're asking for, right? Bob, does your
31 motion still exist?

32
33 **MR. GILL:** Absolutely, Mr. Chairman.

34
35 **CHAIRMAN POWERS:** Is there a second?

36
37 **DR. BARBIERI:** Second, Mr. Chairman.

38
39 **APPROVAL OF SSC MINUTES**

40
41 **CHAIRMAN POWERS:** Second by Luiz. Are there any objections to
42 the agenda? If not, the agenda is accepted as amended. Moving
43 on to Agenda Item II, the Approval of SSC Minutes for the
44 January 9, 2018 meeting, which was conducted by webinar, and is
45 there a motion to approve the minutes?

46
47 **MR. GILL:** Move approval, Mr. Chairman.

1 **DR. BARBIERI:** I will second.

2
3 **CHAIRMAN POWERS:** We've got Luiz for a second, the dynamic duo.

4
5 **MS. CHARLOTTE SCHIAFFO:** Mr. Chair?

6
7 **CHAIRMAN POWERS:** Yes?

8
9 **MS. SCHIAFFO:** Those were January 2019 and not 2018.

10
11 **CHAIRMAN POWERS:** True. All right. Any objection to accepting
12 the minutes? If not, the minutes are accepted. Agenda Item III
13 is we would want a person to represent the SSC at the April
14 meeting of the council and to provide basically the results of
15 this meeting. Are there any volunteers for that?

16
17 **SELECTION OF SSC REPRESENTATIVE AT THE APRIL 1-4, 2019 COUNCIL**
18 **MEETING IN BILOXI, MISSISSIPPI**

19
20 **DR. BARBIERI:** I would be glad to do it, Mr. Chairman.

21
22 **CHAIRMAN POWERS:** Okay. Good. Luiz has volunteered, and we
23 don't have to have a motion.

24
25 **DR. BARBIERI:** Mr. Chairman, just like what happened with you
26 before, I will have to be there anyway, for other purposes, and
27 so this is a way to kind of get a freebie.

28
29 **REVIEW OF SSC OPERATING PROCEDURES**

30
31 **CHAIRMAN POWERS:** My understanding, as far as the SSC
32 responsibilities, is there would probably only be a couple of
33 days of it. All right. Agenda Item IV is Review of Operating
34 Procedures, and there was a document that I prepared, which let
35 me find it.

36
37 A little background is we had a -- Essentially, it was last
38 summer, at one of the meetings, there were some difficulties we
39 had, in terms of decisions, how we make decisions, and, to
40 alleviate that, we asked that Lee Anderson make a presentation
41 at the October meeting of 2018, in which we discussed some of
42 the issues that were involved and why things happened and
43 possible solutions to that.

44
45 What I have done is here is Items 1 through 8 here in the
46 document is to list the major recommendations that Lee made in
47 his presentation, and, essentially, I think the first one is
48 probably the most extant one, in the sense of, instead of

1 looking at our responses and a little bit of, maybe thirty
2 minutes, of discussion and drafting of motions, that we try to
3 broaden a little bit about how we approach these sorts of
4 problems, and it was suggested -- The rest of those
5 recommendations are suggesting how we might approach to actually
6 doing that.

7
8 The key things, I think, in there are that the scope of work
9 that is being prepared by the council staff makes sure that that
10 has been added to input from the Chair and the Vice Chair, and
11 probably the Council Chair themselves, in terms of providing
12 about what it is that's really expected of the SSC, and then the
13 other things are, particularly, to look at how to conduct the
14 meeting so that we aren't stuck in this position of trying to
15 draft motions on the fly, so to speak.

16
17 What I have done, and, below this, if you skip down, is I think
18 my general feeling is that those objectives that were laid out
19 by Lee are pretty much acceptable to the SSC at large, but they
20 point is then how do we actually achieve that, and so what I've
21 done here is, under the major categories, the Scope of Work,
22 Appoint a Sub-Committee, the Role of the Sub-Committee,
23 Reporting, and Logistics, about how we might approach that
24 process.

25
26 What I am really laying out here is reorganizing the meeting a
27 little bit so that I, as the Chairman, can delegate some of the
28 discussion to sort of group leaders or sub-committees that will
29 become the effective discussion leader, and that would require
30 some preparation on the part of that person, and that
31 preparation could include actually drafting motions, and,
32 obviously, these motions could be overruled and redone at the
33 meeting and so on and so forth, but, in the same respect, it
34 would provide some sort of development of the rationale.

35
36 We could have this in terms of formal sub-committees, but my
37 guess is that there are probably some logistical difficulties in
38 actually doing that, and probably even legal difficulties, in
39 terms of assigning sub-committees, and then also having chairs
40 and that sort of thing, and so my suggestion, the underlying
41 suggestion here, is I, as the Chair, jointly with the Vice
42 Chair, would, quote, unquote, assign discussion leaders to
43 certain topics.

44
45 Now, obviously, as a member of the SSC, if one doesn't feel that
46 one wants to or cannot be a discussion leader, obviously I would
47 have to adjust that, but the idea is basically to have
48 discussion leaders be prepared prior to the meeting and to

1 essentially not only lead the discussion, but look at the key
2 points of the issue at hand, and, if there is a motion to be
3 made, at least try to draft some alternative motions prior to
4 the meeting, so that we can develop that.

5
6 The reporting, right now, the council staff prepares a summary
7 report of the meeting, which is -- All of us can contribute to
8 it, and it is the basis for the SSC representative that goes to
9 the council meeting. Essentially, it repeats that report, but
10 what I'm suggesting here is that the discussion leader become
11 more involved in preparing that report for that particular
12 agenda item, and so, again, after the meeting, become more
13 involved in not only editing with the staff, but perhaps even
14 drafting as well, and so that would be a responsibility under
15 this sort of an arrangement.

16
17 The third thing that I mentioned under there is logistics, and
18 this has to do with timing, more than anything else. If
19 somebody is going to be a discussion leader, they can't be told
20 that the night before the meeting, and so we have to come to
21 some arrangement about how that process might work, which also
22 implies that the agenda is settled in enough time for these
23 processes to go, because the way I kind of see it is you come up
24 with an agenda, and I and the Vice Chair and the council staff
25 would sort of start picking people that might be good at
26 becoming a discussion leader, and I would have to check with
27 them to see if they're available and whether they can do it, or
28 would do it, and then leave them enough time to look at the
29 particular agenda item and to be able to develop their own
30 responses to that.

31
32 I suppose that all of that could be done within a two-week
33 period, but it implies that probably the key point would be at
34 my end, about making selections and getting people to actually
35 agree to be the discussion leaders, and so that is my suggestion
36 for how to respond to Lee's recommendations. At this point, I
37 would like to open the floor for discussion about any and all of
38 this.

39
40 **MR. GILL:** As I've said before, I think the concept is
41 excellent, and I fully support it. I think your logistics
42 paragraph is the one that summarizes the critical sensitivities,
43 because it's going to be -- The success is going to be
44 contingent on timing, and not only the process administrative
45 timing that you talked about, but perhaps more significantly is
46 the input from the Science Center and SERO and council staff on
47 the documents that support the agenda, and, historically, they
48 have a lot of work, and they have a lot of priorities, and

1 getting documents early is really difficult for them, and I
2 understand that, but that makes this process more fragile.

3
4 Some discussion with the Science Center and SERO and council
5 staff, et cetera, I think to coordinate that, to do the best we
6 can do under the circumstances and deal with it, but recognize
7 that there is going to be times when they get that document the
8 day before, or two days before, whatever it is, and so prep time
9 for the sub-committee or discussion leader or whomever is
10 difficult.

11
12 That's going to happen, no doubt in my mind, and so I think one
13 of the early steps that needs to be done is have that meeting of
14 the minds on how do we do this and what can we expect and that
15 kind of thing, and everybody hoists it aboard amongst all four,
16 to make it work as best as it's going to work. Thank you.

17
18 **CHAIRMAN POWERS:** Thank you. In some sense, that's no different
19 than it is now, and so, from my standpoint, it's assigning this
20 responsibility for dealing with that to the discussion leader
21 rather than me, but, still, what you're suggesting is you're
22 going have to be adaptable, and everybody is going to have to
23 understand what the constraints are.

24
25 I would also mention this whole idea of having discussions with
26 -- We talked about it some years ago, I think, here in the SSC,
27 and it's something that is done at other council's SSCs as well,
28 and so it's not totally unique. Will.

29
30 **DR. PATTERSON:** We have had discussions before about motions
31 versus consensus, and, obviously, that's not part of this
32 discussion, but, if we were going to really actually go into how
33 we operate, it seems to me that would be the discussion to have.

34
35 Under the current way we operate with putting motions forward
36 for the council, to me, the question is do we arrive at an
37 acceptable endpoint in our report and our advice to the council
38 under the current system, and do we do it efficiently, and we
39 typically do it in a couple of days, and we typically are right
40 up to the end of the meeting, and we're not spilling over, and
41 we're not cramming stuff in.

42
43 If we change logistically how this is done, the one concern I
44 have is about the sub-committees, because I don't think that the
45 structure allows for discussion within a sub-committee outside
46 of this framework, and I could be wrong there, but I think that
47 discussion has to take place in this room and recorded.

48

1 The other thing is that, oftentimes, one of the major things
2 that we actually review are stock assessments and stock
3 assessment results, and there is a lot of nuance there, and
4 there are details that, if you get the information even a week
5 ahead of time, a committee leader is not going to have the same
6 feel for the document information as the person who is actually
7 presenting that assessment to the full group, and, a lot of
8 times, things come up within that discussion that people have
9 overlooked or not thought about.

10
11 If you have a sub-committee that is already drafting motions and
12 moving things forward, then we're already kind of halfway down
13 the track, and we don't have maybe as much room for that
14 discussion that could exist, and so those are things,
15 logistically, with this framework that kind of concern me, is
16 that you're almost -- You have the bias of a small committee,
17 and how is that going to affect the broader discussion, and
18 maybe it won't affect it at all, and maybe we still have the
19 same discussion, but those are the couple of things that I kind
20 of saw in this.

21
22 **CHAIRMAN POWERS:** In response to that, I mean, that was some of
23 the reasons why I probably would view this discussion leader
24 rather than a committee, and so the discussion leader, prior to
25 the meeting, could get input from anybody and everybody that
26 they wanted or that wanted to provide information to them, and
27 so, obviously, who is the discussion leader would have to be
28 presented early enough, but you're right that this is just one
29 person, and their interpretation may be different than somebody
30 else's, and so that would be a concern.

31
32 I can see that particularly in the case of the stock assessment
33 results, but one of the implications of Lee's presentation that
34 really started this off is also sort of looking at the nuance of
35 the kinds of recommendations we make, particularly related to
36 not issues of is it overfished or is it not overfished, but
37 rather recommendations of the consequences of certain actions,
38 and I think, for those sorts of things, this discussion leader
39 would be quite helpful, and so, yes, I can see your concern, but
40 is it any different than what we have now? Jim.

41
42 **DR. NANCE:** For example, like back in the 1980s for the council,
43 the Shrimp SSC -- When we would come to the SSC, the Shrimp SSC
44 Committee would take a larger lead than they do now in
45 presenting the material and going over it, and so I can see
46 that, that those special SSC groups could take more of a lead in
47 the discussion of these meetings and be able to be the leader,
48 and then the full SSC hears that and be able to talk about that,

1 and so I see that as part of this, is to have the role of the
2 Reef Fish SSC and Shrimp SSC and those guys be more discussion
3 leaders for this larger group and bringing those materials here
4 and be able to discuss it. I think that would be a good idea.

5
6 **CHAIRMAN POWERS:** Ken.

7
8 **DR. ROBERTS:** Thank you, Mr. Chairman. Let's see if I can get
9 over my congestion here to ask the question. What type of SSC
10 action trips off this procedure of discussion leader and sub-
11 committees and reports within the standing committee? It can't
12 be everything on an agenda, and so what --

13
14 **CHAIRMAN POWERS:** Well, in a sense, it would be everything over
15 the agenda. In other words, as the Chair, it would be,
16 presumably, my decision about whether it deserves having a
17 discussion leader or not or it's something that I would handle
18 directly anyway. If that was the way we went, that would be the
19 process, I think. Luiz.

20
21 **DR. BARBIERI:** Thank you, Mr. Chairman. I agree and understand
22 Will's concerns and comments about how this could be sort of be
23 already setting in motion something, thoughts, that were
24 directing the discussion in some way, but I think the way that
25 you presented it here in this summary, where it's explicit there
26 how the process is to take place, and we are having this
27 discussion over here about how we see the role of this
28 discussion leader, and, as long as we capture this in some kind
29 of either best management practices or a more formal description
30 of operating procedures like this, and we recognize that that
31 person who is serving as the discussion leader is basically just
32 advancing that discussion and putting that forward in a way that
33 facilitates the group discussion, but doesn't really have any
34 priority, in terms of positions there for the committee to
35 discuss, I think that this could be helpful.

36
37 I mean, oftentimes, even though we have very good discussion
38 here, and we try to work hard at making the process really well-
39 structured, it becomes, at times, kind of ad hoc, because we are
40 trying to build motions and collect thoughts from the group in a
41 way that it's a little bit rushed and not necessarily the best,
42 and so I think, if we can get this framework as you presented,
43 which I think is well-developed, and be cognizant of the
44 comments that Will made, in terms of preventing the leader from
45 completely dominating the discussion in a way of presenting
46 motions that have priority over the rest of the committee's
47 opinions, I am in favor.

1 **CHAIRMAN POWERS:** Thank you. That was one of the reasons that I
2 sort of wrote up the idea of a, quote, unquote, discussion
3 leader, is that I sort of view that person as an SSC member,
4 period. It's just that they happen to be the one that leads
5 that particular discussion rather than me. Anybody else can
6 provide motions, and anybody else can come in, but it also gives
7 people an opportunity to provide input prior to the meeting, if
8 they so desire, by dealing with that discussion meeting. Lee.

9
10 **DR. ANDERSON:** I think the idea of a discussion leader makes
11 sense, and I thank you for putting it forward. Here is the old
12 economist. On one hand, you've got this, and on the other hand
13 you've got the other, and I would say that it's really two
14 extremes. One, you can have kind of an ad hoc let's just go at
15 it deal, or you can have a case where we try to have a leading
16 discussion.

17
18 Will is probably right, or he is right, that this does tend to
19 say, all right, this guy is going to take it, but I think that's
20 better than the other hand, where you don't do anything, and
21 I've been around this table for quite a while, and these are not
22 shy folks here, and they're not hesitant at all to say that's
23 not what I will want, or I will do something else, and so, as
24 long as we get the discussion rolling in the right direction, I
25 think that's -- Also, I think writing a motion is a great thing,
26 because how many times do we sit around and we wordsmith the
27 motion and everything, and at least we'll have something to
28 start wordsmithing from, and you were very clear that the motion
29 has no more priority than a motion from anybody else, but it's
30 something to get the discussion going. We've got short times at
31 our meetings, and I think it's a good idea.

32
33 **DR. TOLAN:** I too really like the idea of this, and I'm going to
34 -- You touched on something in your opening remarks that I
35 wanted to hit on just a little bit, and I'm going to use an
36 example. Say I'm tapped as a discussion leader, and I pull in a
37 handful of folks around the table to lead this discussion
38 outside of this room, and at what point does that group bump up
39 against violating the open meetings, or am I looking too deep
40 into this?

41
42 **MR. RINDONE:** As long as whatever discussions have happened
43 outside of the room are reviewed before a decision is made
44 inside the room, then no behind-closed-doors decision-making has
45 occurred, and we deal with this some in the SEDAR process, where
46 phone calls will take place between analysts and other experts,
47 and it's ultimately reviewed in public on the webinar, on the
48 record and recorded, and so, if you guys converse amongst

1 yourselves, and you have crafted a motion or a point of
2 discussion to bring to the group, then the decision is still
3 made in public, on the record, with this body before anything is
4 then formally recommended to the council.

5

6 **DR. TOLAN:** Thank you.

7

8 **DR. MACLAUHLIN-BUCK:** I am not a member of the Standing SSC,
9 and just two of the special SSCs, but, in looking over this, I
10 feel like the discussion leader could be something that you all
11 could explore, especially with your special SSCs, when there is
12 a topic.

13

14 It shouldn't really be any additional work for a discussion
15 leader, because it's probably somebody who is familiar with that
16 topic, and you kind of have discussion leaders anyway that
17 emerge while you're speaking, and so it will probably just be
18 that person anyway, and so I think it could be a good idea to
19 provide context and take a load off the Chair for discussion and
20 let somebody else facilitate the discussion and really get into
21 some of the points that come up, or maybe even work with council
22 staff to be sure that you're touching on those.

23

24 I think that if there -- A draft motion would probably be
25 helpful, to get started, but maybe no draft recommendations, so
26 it doesn't -- I don't know. I think that's something that you
27 may just have to work out, because it may come off as a decision
28 was already made before the meeting or something, but I
29 definitely feel like, as former council staff and working with
30 an SSC, that it would at least -- We should at least explore
31 some new ways to have a meeting and make sure that it's a really
32 effective and efficient use of everybody's time and the council
33 is getting what they need and the staff is getting what they
34 need, and so, even if you maybe try, at your next meeting, the
35 discussion leader and then talk about it after and say, well,
36 maybe that's not the best thing, and then you move on to
37 something else, but I definitely encourage everybody to maybe
38 try something new.

39

40 **CHAIRMAN POWERS:** Thank you. Sean.

41

42 **DR. POWERS:** I think it's a good idea, and it's worth a shot,
43 and I think that it would decrease the burden on the Chair a
44 decent amount, that there's a discussion leader, and I could see
45 this actually working for stock assessments, where you see a
46 discussion group that is probably more technical and can comment
47 on assessments to a greater degree and inform the rest of the
48 committee.

1
2 I do agree with Will that the larger issue of whether we act as
3 a consensus body or continue to vote is one that is a large
4 issue, and I'm actually on the other side of that issue. I like
5 the voting, but I think that's one that we should probably
6 address as well.

7
8 **CHAIRMAN POWERS:** But probably not at this meeting. I think Bob
9 and then Shannon.

10
11 **MR. GILL:** Thank you, Mr. Chairman. I think it's important to
12 remember that just putting forth the motion doesn't mean that
13 you support the motion, be it a discussion leader or a sub-
14 committee or whatever. It's, as Lee mentioned, to initiate the
15 discussion.

16
17 The motion maker may well vote against the very motion that he
18 made, and, as you know, I've done that. In fact, I delight in
19 doing that, and so it's not the making of the motion that sets
20 the trend, because it just starts -- It's the starting point,
21 and it has something black-and-white, rather than an empty page
22 to look at, and so I think that's an important aspect.

23
24 **CHAIRMAN POWERS:** The way I sort of see this is, if there's a
25 discussion leader, if they cannot prepare a motion ahead of
26 time, then don't. Shannon.

27
28 **DR. CASS-CALAY:** Earlier, there was discussion about the
29 timeliness of documents, for example, and I think that, these
30 new operating procedures, they don't trouble me. It requires a
31 little bit more coordination with the Science Center, to be sure
32 that we're aware of what might come up on agendas, maybe one to
33 two meetings in advance, and it just requires a frank discussion
34 about, yes, we can provide this to this meeting at this time, or
35 maybe we have to delay this particular topic for a subsequent
36 meeting, and so I think we can work in this framework, and
37 provide timely documentation.

38
39 **CHAIRMAN POWERS:** Thank you.

40
41 **SSC MEMBER:** In general, I support the discussion leader idea.
42 I mean, I think it's good to have a point person on these
43 subjects that can maybe dig a little bit deeper and have some
44 things prepared in advance, but, going back to what Jim brought
45 up and Ryan's response, if you are a discussion leader, and you
46 pull other committee members, and you all deliberate over the
47 issue through email or phone conversations, what level of
48 debriefing or reporting would then be required, as far as the

1 discussions that happened within that smaller group, or could
2 that just be conveyed at the SSC meeting, and would that be
3 sufficient, without violating the open meetings rules?
4

5 **CHAIRMAN POWERS:** My view would be that there would be no
6 reporting, per se, and that basically, whatever the discussion
7 leader felt was important for a discussion, then that would be
8 it. Ryan.
9

10 **MR. RINDONE:** Thank you, Mr. Chair. I would echo that. The
11 amount of feedback that you would want to bring back to the SSC
12 prior to the SSC making a recommendation to the council -- It
13 seems that that would be largely up to the discussion leader to
14 determine what was necessary to make sure the SSC had all the
15 information, because, ultimately, the decision is made here,
16 regardless of what is decided by the discussion leader and
17 whoever they bring in. It's not like that small sub-body of
18 people is then going directly to the council and circumventing
19 the SSC. That decision still gets made here on the record and
20 publicly-noticed and the whole nine yards.
21

22 **CHAIRMAN POWERS:** Thank you. One other question. Because we
23 have lots of experience on the webinar, do Harry, Andrew, or
24 Doug want to contribute to any of this discussion?
25

26 **MR. BLANCHET:** Pass.
27

28 **MR. ROPICKI:** No.
29

30 **MR. GREGORY:** I can't just pass.
31

32 **CHAIRMAN POWERS:** All right. I just wanted to make sure that
33 you were attune to it.
34

35 **MR. GREGORY:** Well, thank you. Two minor points. One you
36 mentioned in the beginning, that this would be in addition to
37 the SSC normally reviewing the minutes, and I would like to
38 point out that, in the last three meetings, the SSC has not been
39 given the opportunity to review the minutes or report prior to
40 it being distributed to the council.
41

42 It's my understanding that only the SSC Chair and Vice Chair has
43 been able to approve the minutes, and so I would like to get
44 back to having the full SSC review the minutes, and I think
45 staff is going in that direction, by adding another week to
46 their ability to write the report.
47

48 The other thing is, some discussions we had in the past, we had

1 requested that documents be provided to the SSC at least two
2 weeks in advance, and that's kind of loose, and that's always
3 been loose, but, at one point in the past, it got to where we
4 were getting major documents a day or two before the meeting,
5 and that just became unsustainable.

6
7 Otherwise, I think the discussion is going well, and I like the
8 idea of trying this approach. We tried it once before, when we
9 were doing ACLs and looking at different species, and we were
10 asking people to summarize particular species, but I think we're
11 on the right track here. Thank you.

12
13 **CHAIRMAN POWERS:** Thank you. Ryan, do you have a comment on
14 that?

15
16 **MR. RINDONE:** For the last meeting anyway, the one that we had
17 via webinar, we were just kind of backed up against the final
18 briefing book deadline on that one, and so it was a matter of
19 timeliness and being able to provide things to the council, but
20 we certainly will make every effort to have the summaries done
21 as far in advance as possible in the future and get those to
22 everybody to have a chance to weigh-in.

23
24 **DR. TOLAN:** Just one more point that I wanted to hit on, because
25 I think this is a pretty good concept, especially as it relates
26 to the SEDAR and stock assessment, and whether it's the
27 discussion leader be someone who was involved with the data
28 workshop or the assessment workshop review, and having that
29 person as the discussion leader I think would really benefit the
30 larger group, because they will have a much better feel for what
31 went on in that stock assessment, and so I think it would really
32 help with the discussion as a whole here.

33
34 **CHAIRMAN POWERS:** Thank you. Shannon.

35
36 **DR. CASS-CALAY:** That is actually a recommendation that we've
37 made in the past, and the trouble that you run up against is
38 this idea that, if you're involved in the assessment process,
39 then you're not meant to be a reviewer, and so they haven't
40 allowed, in some cases, people who have been involved in the
41 assessment panels to do the review unless they chair it, and
42 then they're not meant to be like a voting member of the review
43 panel, and so you may run into some problems with the SEDAR
44 standard operating procedures, but, in general, we agree with
45 you that it would be good to have representation from the SSC
46 throughout the assessment process, and it is, of course, a
47 public process, and so you're always invited to be involved,
48 even if you're not a panelist.

1
2 **CHAIRMAN POWERS:** Let me -- The discussion, I think, at this
3 point, what Jim was saying was it would be good to have somebody
4 that was involved in the process, that was an SSC member
5 involved in the process, and what Shannon is saying is usually
6 that person is involved as the chair that is providing a
7 consensus report, and there is some difficulties, in terms of
8 whether they become a reviewer at this end at the SSC.

9
10 I could argue that, if that's the case, then -- I mean, they're
11 still an SSC member, and they have voted on whether stocks are
12 overfished or not for things that they have been on the review
13 for before, and so I don't see it as that much of a difference,
14 but I think we should be aware of it.

15
16 **DR. CASS-CALAY:** I think it's a technical issue of, if you are
17 assigned to be an assessment workshop panelist, as an appointee
18 of the council, you can't then also be a review workshop
19 panelist appointed by the council, and I think that's the
20 stipulation. You can still participate in all the workshops,
21 but I think it's just a technical problem of the appointees
22 can't be -- The reviewers can't also have crafted the
23 assessment, according to the SEDAR SOPPs, and that's my
24 understanding.

25
26 **CHAIRMAN POWERS:** If that's the case, then anybody that has been
27 involved in one of those review panels for a SEDAR should not be
28 voting at the SSC level about whether something is overfished or
29 not, which we have -- Which has not been the case for us. Luiz.

30
31 **DR. BARBIERI:** I mean, that sort of legal and regulatory
32 component of the review, it's explicit in NS 2, right, in the
33 roles of the SSC in participating in the regional stock
34 assessment processes, but also participating in the review as an
35 SSC body of advisors to the council, and so we can get some
36 clarification on that point there, but I think that what Jim was
37 saying, and I agree with Shannon's concerns, but I think what
38 Jim was saying is -- In the South Atlantic, and Kari and Doug
39 may remember this from the South Atlantic Council SSC, but
40 having the people that were involved in the different panels
41 come and bring to the full SSC more details, perhaps, more
42 explanation -- It's just you were representing the SSC in that
43 panel to be able to come here and provide the SSC more
44 information than was conveyed just in a general report.

45
46 There might be questions, and there might be more details that
47 never get really fully captured in a report, and having a
48 representative -- This is why we explicitly set up to be members

1 of those panels at different levels in the regional stock
2 assessment process, so we can actually get the most information
3 brought here for us to discuss.

4
5 That is something that the South Atlantic Council hasn't been
6 doing that much lately, but it has done it in the past, where
7 Science Center folks would come and present the report, and then
8 the review chair, plus the other SSC members, would have an
9 opportunity to present some of their impressions or bring any
10 information that perhaps was not properly captured in the
11 report, just for the information of the committee.

12
13 The final decision, in terms of the SSC review, is still the
14 full committee decision, through their regular process, and so I
15 think that's what you are saying, Jim.

16
17 **DR. TOLAN:** Yes, and, to that point, it was more as an
18 informational point of view. If you've been involved with the
19 stock assessment, then I would feel much more comfortable being
20 the discussion leader, versus being given the task of being the
21 discussion leader and handed a three-hundred-page stock
22 assessment and say, at the next SSC, please explain this, and so
23 it really was informational.

24
25 **CHAIRMAN POWERS:** My feeling is that was the point, to make
26 things more efficient, basically, and, if there are other, more
27 legal, issues, my attitude is let's figure out if somebody
28 objects to it, and we'll deal with it then. Shannon, did you
29 have any comment to that?

30
31 **DR. CASS-CALAY:** I think that Julie Neer was asking for the
32 floor, and she would be the one who might know about the legal
33 problems, if any.

34
35 **CHAIRMAN POWERS:** While we're waiting to see if Julie -- Will,
36 did you have a comment?

37
38 **DR. PATTERSON:** Just a quick comment. I think it would be
39 unrealistic to expect somebody who wasn't actually involved in
40 the process to be able to make time to participate in the
41 panels, or to observe the panels, but not be a panelist, and I
42 think most people who have volunteered for the panels is because
43 they can make time during that period, and, those who don't
44 volunteer, it's because they can't, and I think it would be
45 tough to find people, independent of process, that would
46 actually be able to participate as an observer during a given
47 SEDAR.

48

1 **CHAIRMAN POWERS:** I don't think we were suggesting that a
2 discussion leader be an observer of the panel. I think it was
3 the other way around, that, if there was an SSC representative
4 on these panels, then let's take advantage of that and make them
5 the discussion leader.

6
7 **DR. PATTERSON:** I support that, but, earlier, Shannon had said
8 that, if there's this issue, this legal issue, that you can't be
9 a discussion leader if you had been a member of the panel, then
10 you could have other SSC members come to the panel and observe
11 it, and I don't think that's realistic.

12
13 **CHAIRMAN POWERS:** Okay. Ryan.

14
15 **MR. RINDONE:** Thank you, Mr. Chair, and I would predict that
16 what I'm about to say is similar to what Julie would say, but,
17 if you have a discussion leader who say was on the review
18 workshop panel, and they bring information to this body as a
19 whole, the decision is still being made here by all of you and
20 not by that one person, and so if, and I doubt that this would
21 happen, but, if that person had a particular point of view which
22 was contrary to that of the group, the group still is the one
23 that decides that, the ultimate recommendation of the committee
24 as whole, and it's not that one person.

25
26 It really doesn't matter who the discussion leader is at that
27 point, but it seems prudent to have it be someone who has been
28 involved in the stock assessment process at at least some level,
29 ideally the review workshop level, because, at that point, you
30 see the culmination of all of the efforts for that particular
31 body of work, but that any recommendation about overfished or
32 overfishing or what to do as far as an ABC recommendation, that
33 still gets made in this room on the record, publicly noticed, et
34 cetera.

35
36 **CHAIRMAN POWERS:** Thank you. Does Julie have anything to say?

37
38 **MS. SCHIAFFO:** Julie had to reboot, and so hopefully she'll be
39 on in a moment.

40
41 **CHAIRMAN POWERS:** I am hearing general support for the
42 discussion leader sort of concept, and so my next question is
43 how do we affect this? Do we have some sort of motion that this
44 is what we're going to try, or do we just have some general
45 agreement that assigning me the responsibility of going off this
46 route and assigning discussion leaders? Do you want to have a
47 motion?

1 **MR. RINDONE:** I don't think that you need a motion, because,
2 ultimately, any recommendations to the council are still being
3 made here. How you get to a point where you've prepared
4 materials to make those recommendations, I don't think that that
5 needs a motion.

6
7 **CHAIRMAN POWERS:** Bob.

8
9 **MR. GILL:** Thank you, Mr. Chairman. My sense is that we've had
10 discussion, and the general consensus concurs with your
11 recommendations, and so, in essence, what has happened is we've
12 thrown the ball back in your lap, and you just run with it, and
13 that you start the process in whatever fashion you wish, and
14 it's your action.

15
16 **CHAIRMAN POWERS:** If I fail, I can certainly be impeached.
17 Luiz.

18
19 **DR. BARBIERI:** Thank you, Mr. Chairman. I agree with everybody
20 that has been said. I would just suggest, since you put
21 together these very inclusive notes, that this set of notes be
22 made available as an addendum to our report for this meeting and
23 that the committee then has the opportunity to edit or provide
24 some input those procedures, so they can be formally included as
25 part of this meeting's decision process.

26
27 **CHAIRMAN POWERS:** One of the difficulties with that was I
28 drafted this in terms of several options, and we're sort of
29 leaning away from one of those options, and we're basically
30 moving to a discussion leader versus more formal sub-committees
31 and things like that.

32
33 If that's what -- Obviously, this document itself exists, and
34 it's part of the record, and so we have that, but I wouldn't
35 want to lead the council to feel that we are still considering
36 sub-committees or that sort of thing, and so that's the only
37 issue I really have, is that, in my mind, we have come to some
38 decision, or a recommendation to ourselves more than anything
39 else, is to try this discussion leader sort of framework, and
40 that's the signal we're trying to send to the council.

41
42 **MS. JULIE NEER:** Mr. Chairman, can you hear me?

43
44 **CHAIRMAN POWERS:** Yes.

45
46 **MS. NEER:** Okay. Good. Just one quick comment with regard to
47 the legality or not or whatever, and the only restriction on SSC
48 -- Shannon is correct that if you serve as a panelist at either

1 the data or assessment stage that you can't serve as a review
2 member during the review panel, but that has nothing to do with
3 when the assessment comes to the SSC. The SSC members are fully
4 welcome to vote on everything, and their participation is not --
5 The assessment process does not restrict them from ultimately
6 passing judgment on the assessment.

7
8 Those are two separate issues, and so just to be clear that what
9 you guys have been doing this whole time is fine. You, in fact,
10 want SSC members -- As Jim Tolan has pointed out, you want SSC
11 members involved in the process, and then those members can
12 report back to the full SSC of what happened at various stages,
13 and so you guys have been fine the whole time, and there is no
14 issues. That's all.

15
16 **CHAIRMAN POWERS:** Thank you. That makes me feel better. All
17 right. Then I think we have sort of ended the discussion.

18
19 **SSC MEMBER:** I've got a question. A member of a special SSC can
20 also serve as a discussion leader?

21
22 **CHAIRMAN POWERS:** Yes. Me as the Chair, I would say yes.
23 Obviously, for a particular matter. In terms of voting and
24 things like that, they have the same responsibility that they
25 would have otherwise.

26
27 I think we have come to the end of this discussion, and we will
28 leave it to me to, for the next go-round, for the next meeting,
29 I think in May, and we'll try this out, and I would --
30 Obviously, in the process of selecting discussion leaders, as a
31 Chair, you end up sort of relying on certain people that are
32 more vocal and stuff, but, in the same respect, for any of the
33 other members that feel that they want to get involved in this,
34 please let me know.

35
36 I mean, I will put out an open invitation for agenda items and
37 that sort of thing, but I would certainly like other people
38 other than the older ones of us that are here that have been
39 more involved, and I would like other people to get involved as
40 well, and so I would appreciate that. I think we are finished
41 with this agenda item. We will move to Agenda Item V, which is
42 the Review of the SEDAR Stock Assessment Executive Summary, Ryan
43 and Shannon.

44
45 **REVIEW OF SEDAR STOCK ASSESSMENT EXECUTIVE SUMMARY COMPONENTS**

46
47 **MR. RINDONE:** Thank you, Mr. Chair. Council staff and SERO
48 staff and Southeast Fisheries Science Center staff have been

1 talking about an executive summary for the stock assessments for
2 a little while now and what kinds of things that we might like
3 to see in them, and everyone has a little bit different
4 perspective on what they would like to see in an executive
5 summary, and we used to have these, I guess back in like the
6 early 2010s, and we have since moved away from that, but it
7 would make it easier, at least for -- I will speak for my
8 council staff perspective first, but to be able to find the
9 things that council staff often look for when we're drafting
10 amendments to fishery management plans.

11
12 We often get questions from the public about tell me about this
13 particular aspect of the stock assessment, and, unless you are
14 someone who has spent a considerable amount of time holding
15 page-down with your photographic memory, to find that one thing
16 that you know is in there, it can be difficult to find some
17 things, sometimes, and then also, for just general ease of
18 dissemination to the public, the Science Center has talked about
19 having a one, or maybe two, page kind of hot-sheet that just has
20 the highlights of what happened in the assessment for public
21 digestion.

22
23 What we have here is a proposal of some things that, from the
24 council staff and SERO perspective, are things that we've often
25 looked for in the assessment, things that we often use when
26 we're working on different aspects of amendments to the fishery
27 management plans, and, before we present this proposal to the
28 SEDAR Steering Committee in May, we wanted to garner some
29 feedback from you guys and figure out is this list too
30 exhaustive, are there things that have been left out, things
31 that we can cut out, just what sort of input you might have.

32
33 **CHAIRMAN POWERS:** Thank you. Shannon.

34
35 **DR. CASS-CALAY:** I worked a little bit with Ryan on this, and it
36 is an objective also of the Science Center to reduce and
37 simplify our documentation, because, currently, the reports that
38 we're writing, although they are very lengthy, are not serving
39 very well the public, and so we're aware of that.

40
41 The only trouble that I foresee here is in the MSRA table,
42 specifically, because some of those decisions are later
43 reevaluated, and so we change metrics, for example, and so it's
44 really an issue of how do we keep this document current, and so
45 we'll have to think about that, because sometimes we come in
46 with a certain set of references that come out of a previous
47 decision from the SSC, or some other methodology, and, later, it
48 gets changed, and so there will be a need to update these

1 executive summaries when that happens.

2
3 **CHAIRMAN POWERS:** Thank you. Sean, did you have --

4
5 **DR. POWERS:** When I looked over this, my only general suggestion
6 is, if the idea is to make it user-friendly to the public or to
7 some of us, then some of the tables should probably be replaced
8 with graphics, like tables of landings could be replaced with
9 graphs. The only disadvantage of that, I realize, is that you
10 often need the table to do your calculations after the fact,
11 but, if the goal is to communicate, then you should be using
12 more figures, I think, when you can.

13
14 **CHAIRMAN POWERS:** Jim.

15
16 **DR. NANCE:** Thank you, Mr. Chairman. Is the intent of this to
17 be a summary page in front of the long report or as a stand-
18 alone document?

19
20 **DR. CASS-CALAY:** I see this as a stand-alone document. This is
21 the document that many people would see as the only assessment
22 document that they will read, and a lengthier report will still
23 exist for the time being, but there is, currently, a plan to
24 consider what should be in that report as well and to make sure
25 that anything that we're putting in there that doesn't change
26 from assessment to assessment -- Perhaps we can just put that up
27 on a live linked website that shows our standard practices, and
28 so, ultimately, we would like to reduce all of our
29 documentation, so that it's not so onerous to produce, but this,
30 we think, would be -- It could be a stand-alone document.

31
32 **MS. NEER:** I would agree with Shannon on both of her two
33 comments, because, as she pointed out, often what comes out of
34 the assessment ends up in the assessment report, and then it
35 comes to the SSC, and you guys make recommendations or comments
36 or changes or whatever, and then the Science Center goes back
37 and implements those requests for you, and some of these values
38 might change, and so I would also agree with Shannon that this
39 is the kind of thing that should be available outside of the
40 SAR, because we don't update those SARs.

41
42 Once they are finalized and they are distributed, there are
43 legal connotations to dissemination of reports, and so this, I
44 agree, would be better as a stand-alone document that caters to
45 the Gulf Council's needs, because the South Atlantic also
46 produces something similar that council staff produces by going
47 through the assessments, and so this would be a great way for
48 the Gulf Council to get at what you guys specifically are

1 looking for.

2
3 **MR. RINDONE:** Presently, after the SSC reviews the stock
4 assessment, I go back through the SSC report and clip out the
5 portion of that report where you guys have actually gone through
6 an assessment, and that's posted to the SEDAR website, and that
7 serves as a reference for folks who are trying to figure out
8 that, all right, the assessment is done and what happened next
9 and what was the ABC recommendation, et cetera, and what changes
10 were made.

11
12 Those, for all the completed stock assessments that you guys
13 have reviewed thus far, are on the SEDAR website, and, again,
14 that happens after the SSC's review, and I would envision this
15 being finalized after the SSC's review of the stock assessment,
16 so that any changes to the MSRA table are incorporated, and,
17 after that point, it's rare that they, again, change, unless
18 there's a follow-up assessment, and so council staff can
19 certainly work with the Science Center to make sure that all of
20 the information is conveyed and we get it current and accurate.

21
22 **CHAIRMAN POWERS:** Thank you. Jason.

23
24 **MR. ADRIANCE:** Thanks, Mr. Chairman. The only thing that I
25 think might be helpful under that description of landings, with
26 all the state surveys coming online, is adding a description of
27 those data, where they may have been used that are from a state
28 survey, if there was a conversion or a manipulation, a brief
29 description of that, just so it's clearly laid out.

30
31 **CHAIRMAN POWERS:** Thank you. This sort of brings up the
32 question of -- Let me ask Shannon. I sort of -- I am looking at
33 this, from our own experiences, something like an ICCAT
34 executive summary, and so then the question is who is the
35 executive that you are summarizing for.

36
37 I think it's important to have some of the basic information
38 about F current over FMSY and those sort of things that are
39 immediately picked out as metrics from which decisions are made.
40 When you start getting into steepness and things like that, it's
41 a little more -- That's more of a discussion amongst scientists,
42 and, obviously, it has a big impact, but it isn't really going
43 to facilitate general knowledge for the lay public or for
44 decision makers, and so, in my mind, if there has got to be some
45 sort of tradeoff there about who is the major client you're
46 trying to communicate with.

47
48 Judging from having been involved in developing the executive

1 summary for ICCAT, there is a tendency amongst scientists to
2 want to document things in an executive summary, and, as years
3 go by, they get bigger and bigger and bigger, that sort of
4 documentation, and so just a word of warning to try to keep that
5 from happening, and so my view is start with real minimal, with
6 the recognition that people are going to start adding to it as
7 time goes on, but that is my bias. Shannon.

8
9 **DR. CASS-CALAY:** I agree. We have tried to move that ICCAT even
10 to much shorter executive summaries, and now the discussion is
11 essentially two pages and some tables and figures, and,
12 initially, when Clay and I envisioned what this executive
13 summary would be, we were thinking more along the lines of
14 communicating the stock assessment information to council staff
15 and council members, and potentially the public.

16
17 We were going to retain most of the detailed information that an
18 SSC might need to review the assessment within the lengthier
19 document. Now, looking at this, this is going to be a lengthy
20 document, because sometimes just to explain the recreational
21 landings is going to take us a page or two, and so I'm very
22 willing to consider all of our documentation that is produced.
23 If the document that we are producing as part of the stock
24 assessment report needs to be structured differently, so that
25 this information is easy to find, we can do that. There is
26 no reason that we can't change the template somewhat.

27
28 If some of this becomes an executive summary and other parts are
29 contained within the lengthier document, that doesn't trouble
30 me, and so I think the message is that this information
31 currently is hard for people to find and that we need to make it
32 easier, and, basically, we have some money right now that we
33 would like to spend on creating automated documents, so that we
34 can basically use our procedures to create a lot of this
35 information for us, and so it's simply a matter of what do you
36 want and where do you want it to be, and we can basically make
37 that happen.

38
39 **CHAIRMAN POWERS:** Thank you. Bob.

40
41 **MR. GILL:** Thank you, Mr. Chairman. One suggestion for
42 consideration, I guess in opposition to Joe's thing, to add
43 might be a small section on the major differences from the
44 previous assessment. That seems to come up fairly frequently,
45 and I think it might be worth considering putting in.

46
47 **CHAIRMAN POWERS:** Thank you. The template that I am thinking
48 of, as I mentioned, was the ICCAT executive summaries, and they

1 basically have background, which is sort of a little bit about
2 the biology and the fisheries and things like that, a couple of
3 paragraphs, and there is a situation called -- Well, I can't
4 even remember now, but --

5

6 **DR. CASS-CALAY:** Fishery indicators.

7

8 **CHAIRMAN POWERS:** Fishery indicators and sort of status of the
9 stocks.

10

11 **DR. CASS-CALAY:** Management.

12

13 **CHAIRMAN POWERS:** Outlook and management, and then they have
14 tables, like the F matrix, F current over FMSY, B current over
15 BMSY, and things like that, and then, usually, there is a set of
16 figures that relate to landings and relate to trends in biomass
17 and trends in recruitment, in some cases, and things like that.

18

19 I mean, I have no particular objection to Bob's having a
20 discussion of -- A paragraph or so with a discussion about where
21 this is different from previous assessments, but I think, like
22 the ICCAT, there should be a set set of paragraphs that you're
23 going to deal with, and then, like I said, those sets -- In the
24 ICCAT template that I am talking about, those sets of paragraphs
25 have existed for a long time now, but it's just the numbers of
26 paragraphs have gotten bigger, and so I don't know.

27

28 I mean, all of these things, in particular cases, would be
29 important for people to know. Whether they need to be done in
30 all the cases though is a question. Will and then Luiz.

31

32 **DR. PATTERSON:** I think one thing that you might want to focus
33 on is making this a summary of the outputs and not a summary of
34 all the rationale, because you end up -- I mean, I could easily
35 see something, like red snapper, where you end up with a
36 fifteen-page executive summary that's just an abbreviated
37 assessment document, and then you might have twenty figures that
38 you cite in that.

39

40 I think, if you have a standard format, and maybe the ICCAT two-
41 pager is too limited, but it seems like that would be more
42 useful than to have something that just kind of grows and
43 expands and just becomes a mini assessment document.

44

45 **CHAIRMAN POWERS:** Some of the reason that those things start
46 growing is people want to justify certain things, as scientists,
47 because we think that way, and so you start putting in jargon
48 and things like that that are really not helpful for decision

1 makers. Luiz, you had a comment?

2
3 **DR. BARBIERI:** Thank you, Mr. Chairman. A few things. One, I
4 strongly support the idea of putting something like this
5 together. I think that this is much more practical than a lot
6 of the stuff that we do. You know, I served on the review panel
7 of a Portuguese assessment review, and the Europeans think that
8 we are nuts, in terms of the size -- Because all of them have,
9 despite all the contention and they have shared resources there,
10 that still they have much more summarized reports that don't
11 take as much time to build and consume staff time from the
12 Science Center as we do.

13
14 As part of that, and, Joe, you brought it up, is there is --
15 Some of this process, these reports, these executive summaries,
16 so to speak, are templates that are supposed to be fairly set up
17 in a way and stable, so they don't grow too much or they don't
18 vary, because then people know what to find where, specifically,
19 and even the tables are -- I was really impressed about how
20 these things are all standardized in a way that you can look at
21 the report, all of the reports kind of look the same, and that,
22 I thought, was very interesting.

23
24 Lastly, if there is a way for us, and I know, Shannon, the
25 responsibility of the Science Center to document the stock
26 assessments that you guys conduct, but, I mean, right now I can
27 imagine that that's a time sink.

28
29 Some of those reports are just so lengthy, and I would much
30 prefer to have something like this, where we have files,
31 folders, in the right places, with all the scripts that were run
32 and everything that we can rerun and produce outputs
33 automatically without breaking a sweat, if there is a need for
34 people to go and look at those specifics, because the scripts
35 are all saved in specific folders, but you don't have to get
36 folks to write 500 or 600 pages of reporting and explaining,
37 like Will said, all the rationale behind a bunch of these
38 decisions that is ideal, but definitely not practical, and I
39 think it's going to bury our Science Center, in terms of
40 productivity.

41
42 **CHAIRMAN POWERS:** Thank you.

43
44 **DR. MACLAUHLIN-BUCK:** With that, I would, from the social
45 science perspective and just communication with council members
46 and the public, also second keeping it as brief as possible,
47 but, because they are electronic documents, there is always ways
48 to put in links or expanding something, and so the first glance

1 is very brief, and then, if people want to get more detailed,
2 then you can link it, and that should be maybe something you can
3 put in your auto-generator that you are working on, so that it's
4 very standardized for that.

5
6 I have learned, with council members, to keep it as brief as
7 possible, because they have so much that they have to review
8 beforehand, but always giving the option of being able to find,
9 quickly, any additional details.

10
11 **CHAIRMAN POWERS:** The auto-generator that you're talking about,
12 I wish my career had those sorts of things. Anyway, the way I
13 sort of envision that is kind of you would have an executive
14 summary with certain ways that it would be linked, which will
15 automatically go to another document that justified it and
16 things like that.

17
18 **DR. CASS-CALAY:** Yes, and, I mean, we have a clever programmer
19 who basically can take the stock assessments and, within an R
20 script, he can basically even conduct projections and then pull
21 from the results of those projections, and so we could pretty
22 much automatically generate even things like FOY and F current
23 from different projections, and so it's a challenge, and it's
24 not going to be done fast.

25
26 It's going to take a year or two to get this all together in an
27 automated sense, but I think that the benefit to us in something
28 like this is you have each report for each stock assessment look
29 very similar, so that people are aware of where to find things,
30 because I think, right now, one of the failures, unfortunately,
31 is that our stock assessment reports look quite different
32 through the years, and I think that all of this information is
33 there, often, but it's not in the same place in each report, and
34 so we have heard from the public, frequently, that they have
35 difficulty finding things, and so we do need to correct that.

36
37 The question will be, once this report is created, then what
38 does belong in the stock assessment report, and it becomes
39 largely redundant, and one of the things that I have always
40 thought that our SEDAR reports are lacking is the justification
41 for decisions.

42
43 The stock assessment scientists write what we actually did, but
44 we don't always write why we did it, and so maybe that's what
45 the report from the SEDAR process should focus on, is the basis
46 for the decisions, and these sorts of details can be in this
47 shorter report.

48

1 **DR. CHAGARIS:** Luiz mentioned it, and Shannon did as well, the
2 idea of having the scripts and things like that, and I just want
3 to say that the type of work that I do, and others that work in
4 population dynamics and stuff, having something like the report
5 file made available with the stock assessment, and you can link
6 it or embed it as an attachment within a PDF file, is really
7 useful, because it basically captures everything within like
8 your base run, all the inputs and all the parameters and
9 everything, and it allows -- I think it sort of promotes
10 research and development within academic communities as well,
11 folks that want to pick up the model and develop their own
12 projections and explore some things.

13
14 That could be one option to actually reduce the size of the
15 document, by actually putting some of these output files --
16 Making them available, and there's probably a small user group
17 that would do that now, but I think that that could grow over
18 time, and so that could be a way to limit the number of figures
19 and tables and things that are becoming a little bit redundant.

20
21 **CHAIRMAN POWERS:** Jim.

22
23 **DR. TOLAN:** Thank you, Mr. Chairman. I want to channel my inner
24 Bob Gill for a second and play devil's advocate, and I would say
25 that, the way we're moving with stock assessments, it almost
26 argues against simplification, because now we have males versus
27 females and east versus west. With the most recent cobia stock
28 ID workshop, we had three unit stocks that we're sharing with
29 the South Atlantic, and so it almost argues against
30 simplification.

31
32 **CHAIRMAN POWERS:** David.

33
34 **DR. CHAGARIS:** Just to that point, I mean, they are getting more
35 complex, which makes it more difficult to document in a PDF
36 file, which is why making the actual information available in
37 other formats I think could simplify the document, while
38 actually providing of the information and descriptors of the
39 complexity in the assessments.

40
41 **DR. TOLAN:** To that point, I perfectly agree, but I was just
42 channeling Bob Gill.

43
44 **CHAIRMAN POWERS:** Jim and then John.

45
46 **DR. NANCE:** Thank you, Mr. Chairman. This document, what we're
47 talking about is basically a one-shop stop, in the fact that you
48 can find everything right here, and it doesn't document how you

1 arrived at this numbers, but it simply documents what the
2 numbers are.

3
4 If you want details, and I like linking all the documents and
5 things like that, and that's good, because you can go back and
6 read that if you wish, but, if I'm simply interested in where
7 we're at now with this stock, here it is, and I think that's the
8 purpose of this summary.

9
10 **CHAIRMAN POWERS:** John.

11
12 **DR. FROESCHKE:** I just wanted to give a little background too on
13 as a consumer, and like the council staff, we look at these,
14 and, sometimes at meetings, things come up in short order, and
15 we're trying to really generate and find some value immediately,
16 and, the way that the stock assessment documents are
17 restructured now, two things are problematic for me.

18
19 One is, if you think about it, the documents are in
20 chronological order, but they're in the reverse order of the
21 things that you're actually interested in. Like, if you're
22 interested at the end, you want to get the final result and then
23 look through the draft values later, but it's the opposite, and
24 so if you're doing, for example, word search or something, that
25 value might be in the document six times, and so you never know,
26 with certainty in short order, if you have the correct number.
27 Then, if you report something out incorrectly, then god help
28 you.

29
30 This would really help do that, and the other thing is, in the
31 report, if there were some way, perhaps, to either -- If was
32 just a font or gray or something, but the things that are draft
33 documents look different, such that, if you're pulling a value
34 from those, you know that, in short order, that, okay, this is
35 the draft, but it may not be the final estimate of that
36 parameter value, because those are all in a different font or
37 something, but anything to dummy-proof these documents, so we
38 don't make mistakes, would be great.

39
40 **DR. CASS-CALAY:** There has always been, in my mind, a drawback
41 to our documents, which is that they end at the termination of
42 the review workshop. Whatever is in that document is what the
43 review workshop considered, but, oftentimes, we're asked to make
44 changes by the SSC, and so those new models exist only sometimes
45 in documents that are on the council FTP server.

46
47 This would allow us to create a document that is the final,
48 final, final stock assessment, and whatever is contained in the

1 review workshop document is not necessarily final, and that's
2 just the way it's been for years now, and I don't know -- Beyond
3 us putting this -- What we do, typically, is we take whatever
4 the final document is, and I send it to Julie, and she posts it
5 to the server, so that it's at least contained in that SEDAR
6 umbrella, but, according to the SEDAR SOPPs, that final document
7 that comes out of the review workshop is closed, and we can't
8 revise it.

9
10 **MS. NEER:** Shannon, you're absolutely correct, which is why I
11 like the suggestion of making this be a stand-alone document,
12 because this will represent any changes that the SSC makes.
13 It's also why Ryan sends me copies of the SSC reports and your
14 discussions.

15
16 Those are also on the SEDAR website, and so everything does
17 exist, and you can find it, but you're correct that the SARs
18 that come out of SEDAR are through the review workshop report,
19 and they do not take anything after it, but that is because that
20 was a conscious decision made, that at some point SEDAR needs to
21 be done, and then it goes into the management aspects of it,
22 such as the ABC recommendations and stuff, which come out of the
23 SSCs and the councils.

24
25 We do make those available on the SEDAR website, and they are
26 provided by council staff, those reports, and they are posted
27 there, which is why I think this would be a great document to be
28 a stand-alone that could be, as you said, these are the final
29 numbers, after all SSC deliberations and if even the council
30 asks for additional stuff, and that would all be represented in
31 this document.

32
33 **CHAIRMAN POWERS:** Thank you. Will.

34
35 **DR. PATTERSON:** I think a lot of folks have commented on making
36 this as concise as possible, but I think one thing that I don't
37 see in your draft list here that kind of tends toward the
38 rationale side has to do with steepness, and I think you might
39 want to include a short paragraph about whether steepness was
40 estimable or whether you fixed it and used a different approach
41 for projections, because that's something that -- There's a
42 clear difference between the way the South Atlantic Council
43 assessments are typically done versus in the Gulf, and I'm not
44 sure about -- In the Caribbean, usually they're just kind of
45 data limited, but, anyway, I think, because you have FMSY and
46 all these other benchmarks here, it would be important to know
47 whether that was based on a proxy or whether it was an estimate
48 of MSY.

1
2 **CHAIRMAN POWERS:** When is it ever estimated?
3
4 **DR. CASS-CALAY:** Seldom.
5
6 **CHAIRMAN POWERS:** I am being facetious. I still kind of warn
7 people that you don't want -- If you want this to facilitate
8 decision making and lay public understanding, you want to avoid
9 lots of jargon, and steepness -- Well, that implies to me that,
10 if you start reporting steepness, you are assuming a Beverton-
11 Hold stock-recruitment relationship. If you don't assume a
12 Beverton-Holt, then you have to start talking about Ricker and
13 yada, yada, yada, and you keep on going like that, and so you've
14 got to be real careful about how much detail you want to deal
15 with that. Did you want to respond to that, Will?
16
17 **DR. PATTERSON:** Sure. You don't have to have much of a
18 discussion about steepness itself, but you can definitely say
19 whether the MSY value was estimated in the assessment or whether
20 it was a proxy.
21
22 **DR. CASS-CALAY:** I think that, if we're going to make this an
23 executive summary, we'll just have to be very judicious about
24 how much justification we include, and those justifications can
25 be in the lengthier report, but I think we just need to try this
26 a few times and see what's useful and what can go. I think this
27 is an iterative process.
28
29 **CHAIRMAN POWERS:** Ryan.
30
31 **MR. RINDONE:** Thank you, Mr. Chair. Yes, our assumption was not
32 that the cat would be skinned at this meeting, but it would be
33 iterative, and we would have to try it out a few times and
34 figure out what we did and did not need, but, from the
35 perspective of what we've presented you guys with, we wanted to
36 pile on, and so, if there were things that we missed, which it
37 looks like there are a couple of things that you guys have
38 recommended, then it will fold those in as well, and, if there's
39 anything on here that I have heard justification of something
40 that we could leave off or maybe hyperlink to the grander stock
41 assessment report or something to that degree, then we can clip
42 those things out here too and try to make aspects of this more
43 brief, but, again, the intention was to bring everything that we
44 find ourselves frequently looking for, and, if we're looking for
45 it, odds are that somebody else is, too.
46
47 **CHAIRMAN POWERS:** Thank you. Camp.
48

1 **MR. MATENS:** Thank you, Mr. Chair. I have two comments to make.
2 One is, when a lay person looks at something, like myself, I
3 don't really like to see an executive summary more than just a
4 couple of paragraphs. If I want to know more about it, I can
5 get into the detail.

6
7 Further, when there is a larger report, and this is just a
8 personal opinion, I like to see the conclusion first, and, if I
9 disagree with it or I'm curious about it, I can get into the
10 detail. I don't want to spend a bunch of time going through
11 tons of pages of logic to get to the answer that, if you don't
12 get to that same answer, then you obviously don't understand it,
13 and that's just two comments that I have. Thank you.

14
15 **CHAIRMAN POWERS:** I think that's important. Shannon.

16
17 **DR. CASS-CALAY:** I agree with you entirely, and I think one
18 thing that would be helpful is maybe to put, right at the
19 beginning of this report, a very -- Kind of a one-page, very
20 graphical presentation of the stock assessment results,
21 something that catches the eye and is visual that many people --
22 That's what they need, and that's what -- That's all that they
23 want to see, and so we can talk about, or maybe gin-up something
24 to bring to an SSC meeting, to see what we might communicate in
25 a one-page presentation, and we have a few versions that we have
26 tried.

27
28 **CHAIRMAN POWERS:** Any other comments? One of the things I think
29 should be done is actually do an executive summary of a stock,
30 either one for an assessment that is being done now, in which
31 case this would be a template that we might use in the future,
32 or one that has been done in the past and do a this is how we
33 would present an executive summary for this.

34
35 I think that sort of template would be the basis, and we could
36 start nit-picking about I don't like this, or I want this in
37 there and sort of thing, and that would probably be the best way
38 to go for now. If you do one in the past, I suppose you would
39 have to be a little judicious about one that is not too, too
40 controversial and also one where you would at least have a
41 significant amount of information, because you run into some of
42 the data-poor things, and it's going to be a little more
43 difficult to use a standard sort of presentation, but, anyway,
44 that's my suggestion. Shannon.

45
46 **DR. CASS-CALAY:** I think that's possible. I mean, we can do
47 that by the May meeting. I will just figure out which analyst
48 has the most available time and what stock assessment they most

1 recently conducted, and we'll probably use that as an example.
2 It won't be Jeff, unfortunately, because he's leading everything
3 gray lately.

4
5 **CHAIRMAN POWERS:** All right, and so the recommendation is
6 basically that we're supportive of this, and we think it's
7 important, and we've given a number of comments about the
8 general framework of how this will proceed, and we're looking
9 for an example, I think, a real-world type of example, to kind
10 of move on from in the future. Okay.

11
12 In our schedule, the next agenda item is Agenda Item VI, but
13 this will be a good time to take our break now, I think, instead
14 of -- We're a little bit ahead of schedule, and so, before we
15 get into Agenda Item VI, the gray snapper one, let's take a
16 fifteen-minute break and come back at 10:15. Thank you.

17
18 (Whereupon, a brief recess was taken.)

19
20 **CHAIRMAN POWERS:** Thank you. We are reconvened, and we're on
21 Agenda Item VI, Updated Gray Snapper Projections, et cetera, and
22 there is a document that is in the file that we can look at, and
23 I presume, Shannon, that you're leading this? Thank you,
24 Shannon.

25
26 **UPDATED GRAY SNAPPER PROJECTIONS AT F 26 PERCENT SPR**

27
28 **DR. CASS-CALAY:** Charlotte, I also sent you an updated
29 presentation, and so maybe -- The same information is contained
30 in the document and the presentation, but I did want to caution
31 everybody that I sent new versions today that corrected one
32 error that I found, or actually Clay Porch found, and so you
33 need to -- If you're interested in these results, you need to
34 make sure you have the most versions of these documents.

35
36 Jeff Isley is the lead of the gray snapper stock assessment, and
37 I conducted these projections, because he is deeply involved
38 right now with gray triggerfish, and so this is a team effort.

39
40 Why are we here? In August of 2018, this SSC recommended OFL
41 and ABC yield streams, and they derived them using an FMSY proxy
42 of F SPR 30 percent or greater, is what the recommendation was,
43 with an MSST, or minimum stock size threshold, set at one minus
44 M times BMSY, with the same proxy, 30 percent SPR, and a P* of
45 0.4.

46
47 That later went to the council, and, in January of 2019, the
48 council reviewed the SSC recommendations, and, in my words, they

1 were concerned that -- They felt there was not a significant
2 biological basis to set the gray snapper FMSY proxy at a higher
3 level than for other similar species, such as red snapper, where
4 the reference is F 26 percent SPR.

5
6 Also, the council, in their Reef Fish Amendment 44, the council
7 has changed the MSST definitions for the other assessed species,
8 most of our other assessed species, to 50 percent of BMSY, or
9 its proxy, and they did also make that change for gray snapper,
10 and so a new MSST value.

11
12 During that meeting, the council requested that the SSC
13 reevaluate alternatives for MSY proxies, and they were
14 particularly interested in F SPR 26, and, basically, that came
15 from that global MSY analysis that we presented that Matt Smith
16 and Dan Goethel worked on, and so, essentially, they find the
17 proxy that would be produced if you could fish, theoretically,
18 at the knife-edge selectivity pattern that produces MSY, and so
19 that's what this calculation is based on.

20
21 If you could do that and produce MSY, you would be at SPR 26,
22 and so that's why this number came up, and they did that
23 analysis for gray snapper, and it came up with a value of about
24 24 percent, but we felt that was a lower limit, and the council
25 has asked us to evaluate 26 percent.

26
27 To support this evaluation, the Science Center was asked to
28 develop OFL and ABC yield streams for a three-year projection,
29 2019 through 2021, using that F SPR 26 value, and we have also
30 projected F SPR 30 and 40, for comparison. Longer-term
31 projections are available upon request, and so these were, of
32 course, actually projected to equilibrium.

33
34 We used the same SEDAR 51 base model configuration to project in
35 Stock Synthesis Version 3.24, and we ran those projections from
36 2016 to equilibrium using assumed landings, and so this is new.
37 This is an improvement, I suppose, and so we got the assumed
38 landings from SERO, and, in 2016, the recreational landings were
39 about 2.4 million pounds, and commercial landings were 156,000
40 pounds. In 2017, about 1.8 million pounds recreational, and
41 commercial was 137,000 pounds. In 2018, we only have, right now
42 available to us, the aggregate ACL, which is 2.24 million
43 pounds.

44
45 After 2018, we projected constant F at the three MSY proxies, F
46 SPR 26, 30, and 40. Projections were run assuming that the
47 selectivity, discarding, and retention functions would all
48 remain as they had been estimated in the three most recent

1 years, which happened to be 2013 through 2015, and we used the
2 assumed steepness value from the base model of 0.99.
3
4 OFL was estimated just as the median, the 50th percentile of the
5 PDF of retained yield, using the projection of FMSY, or its
6 proxy, and MSST was set to 50 percent of BMSY, which is the
7 council's current preferred alternative, and, under this MSST
8 definition, which differs from what you considered at the last
9 SSC meeting, when you used one minus M instead, under this MSST
10 definition, none of these proxies considered in this
11 presentation led to an overfished stock status in 2015, and so
12 they all said that the stock was above or at the MSST level.
13
14 Because of that, the ABC was calculated using the 40th
15 percentile, which is the P* of 0.4 that the SSC specified last
16 time of the projection of FMSY, or its proxy, and not F rebuild,
17 because you don't need to rebuild. They are not overfished.
18
19 There is also a document that you can look at which details how
20 these assumed landings that I just told you about were broken
21 out into the required fleet structure for SS, and for the
22 recreational sector, converted to numbers of fish from pounds,
23 but I did not plan to belabor that, unless there were questions.
24 It's all in the document that isn't on the server.
25
26 This is what the results look like, and so what I've tried do
27 with the colors that you might be able to tell apart, and so
28 there's light blue, green, and dark blue, and it indicates the
29 columns, and so the first column on your left is F SPR 26
30 percent, the middle is F SPR 30, and the outside, or the left,
31 the right-most column, is F SPR 40.
32
33 The top shows you the spawning stock biomass trajectory for
34 those three proxies, and they are quite similar, but, as you
35 expect, there is slightly more increase than SSB with the F SPR
36 40, because that is a lower fishing level. You are fishing at a
37 lower level, and so you're allowing the stock to build faster.
38
39 The center three panels are the depletion, and so that's just
40 the current spawning stock biomass over the virgin, unfished,
41 spawning stock biomass, and it just shows you that these do come
42 in equilibrium to the expected value, and so 26 percent
43 depletion, under F SPR 26, about 30 percent in the middle, and,
44 obviously, you come to a higher stock size of about 40 percent
45 of virgin if you fish at F SPR 40.
46
47 Probably the more relevant graphic shows you the spawning stock
48 biomass over the MSST level, and so that's basically your

1 overfished status, and so you see that, under any of these
2 scenarios, in 2015, you're not overfished, and you're at or
3 above one, but, if you chose F SPR 40, you're essentially at one
4 in 2015, and so you're essentially at 50 percent of the spawning
5 stock biomass that corresponds to F SPR 40, but, in each case,
6 your spawning stock biomass increases during the projection, and
7 so the stock is building under any of these fishing mortality
8 levels.

9
10 This slide just shows you fishing mortality itself, on the top,
11 and, basically, F SPR 26 is almost equivalent to F current, and
12 so it's essentially the value you're fishing at right now, in
13 the most recent four years, and F SPR 30 is similar to the
14 average F, and F SPR 40 is actually a reduction in fishing
15 pressure, and so it's about a 25 percent reduction in fishing,
16 in exploitation rate.

17
18 These are the retained yields, which is the same thing. These
19 are the median trajectories of retained yield that I was showing
20 on the top, which is the same thing as OFL, by our definitions,
21 and, on the bar charts at the bottom, you see the reduction to
22 ABC that results from using the P* of 0.4, and, really, all I'm
23 showing you here is that, under F SPR 26 and 30, the projected
24 retained yield is similar to the most recent years of landings.
25 At F SPR 40, it's a reduction in yield that could be expected.

26
27 You will also notice, on these slides, that the buffer between
28 OFL and ABC is very small, and that's basically a product of
29 this stock assessment has many fixed parameters, and so,
30 essentially, when you invert the Hessian and take the 40th
31 percentile -- A lot of the parameters are fixed, and so the true
32 uncertainty is larger than what is indicated here.

33
34 Moving on the next slide, these are the values that correspond
35 to the graph you just saw, and so I'm showing you the actual
36 retained yields from the stock assessment in millions of pounds,
37 and they are extremely similar to what we have fixed in the
38 projection, but there is little variance in catch that is
39 included in the stock assessment, and so you might see some
40 minor changes, and I don't think it's substantial at all, if it
41 exists, but, in 2019 through 2021, those are your retained
42 yield, OFL, and ABC at P* of 0.4 and the lower and upper
43 confidence intervals.

44
45 The next slide is, because the buffers are quite small, I went
46 ahead and did 75 percent of FMSY, just to give you an idea of
47 what that would look like, and you have considered that at times
48 in the past, and so that final right-most column in each chart

1 shows you the ABC if you were to use FOY and define FOY as 75
2 percent of FMSY, and so that gives you a larger buffer, for
3 example, but there -- Basically, it's not complicated for us to
4 use different P*s as well, and so, if this group wanted to
5 consider P*, that can be done on the fly, and we could produce
6 these values for you quickly.

7
8 Many, actually, have noted that, in this stock assessment, it
9 appears to be unusual to them that this stock experiences
10 overfishing for many years, but does not become overfished, and
11 I wanted to comment on that, because, under the council's
12 preferred MSST and MFMT definitions, a stock is not considered
13 overfished until it reaches 50 percent of the SSB that
14 corresponds to MSY, but a stock is assumed to be undergoing
15 overfishing if F is greater than FMSY, and so I'm going to show
16 you a graphic in a minute that will help you sort this out, and
17 there's a lot of acronyms.

18
19 Because these two metrics are not consistent, and I don't mean
20 that in a negative way. I don't mean to say that they're
21 incorrect, but I mean that they're just not consistent, but
22 you're going to see this happen more often in the future, and
23 let's just go to where I actually graph it out.

24
25 On the left-hand side, you see kind of the ICCAT scenario, where
26 you're using consistent references, and so MFMT is equal to
27 FMSY, or its proxy, and MSST is the spawning stock biomass that
28 occurs at SSB MSY, or its proxy, and so, in this scenario, the
29 blue line shows you the spawning stock biomass, basically since
30 1970 going down, and the red shows you the fishing mortality.

31
32 You can see that, in about 1977, the fishing mortality started
33 to exceed FMSY, your overfishing, and, very rapidly, the stock
34 declines to levels below SSB at MSY, which is what you expect to
35 see, and, as long as the fishing mortality remains in an
36 overfishing condition, the spawning stock biomass remains low.

37
38 On the right-hand side is what we have now in the new Gulf
39 references, and so now you're not actually overfishing until you
40 have gone down to 50 percent, and so here's what you see, is
41 that dotted blue line now is our new SSB divided by MSST, and so
42 now you see the situation where you are -- I hate all these
43 acronyms, and I apologize.

44
45 Your fishing mortality still exceeds your MFMT in about 1977,
46 but the stock remains above 50 percent of SSB at SPR 26, because
47 the two references are not consistent, and do you see what I am
48 getting at?

1
2 The reason that I'm spending a little time with this is because
3 these references now have been set for most of our assessed
4 species, and so you're going to see this frequently happen,
5 where you're going to see unexpected behaviors, and so I just
6 wanted to spend a little bit of time to kind of help you
7 understand that, and so, if I have used too many acronyms, which
8 I'm sure that I have, let's -- I would be happy to answer some
9 questions. Will.

10
11 **DR. PATTERSON:** One thing that you might do to drive this point
12 home, if you're presenting it to the council, is say that
13 overfishing is being evaluated based on F 26 percent SPR, and
14 overfished is being examined relative to 13 percent SPR.

15
16 **DR. CASS-CALAY:** Right. Yes, that would be a good way to
17 present it. This is not -- The justification from the council
18 is essentially, as long as you are eliminating overfishing,
19 these stocks will recover, and so their concern is primarily
20 eliminating overfishing, and I guess Roy could give you a much
21 more precise and correct explanation.

22
23 These references, I am not suggesting that we need to tell the
24 council to reconsider, but I am just saying this is going to be
25 a result that you will see frequently. It's just a natural
26 product of having these references be inconsistent. Will.

27
28 **DR. PATTERSON:** Another thing that we could do, as an SSC, is we
29 could -- Instead of just saying is it above or below the MSST,
30 we could also add whether it is depleted below BMSY, SSB MSY,
31 and, that way, it gives the sense of it's actually below the
32 proxy for what would be fully rebuilt, if it had been overfished
33 and in a recovery plan, but it's not managed that way, because
34 of the new definition of one-half BMSY.

35
36 **DR. CASS-CALAY:** Right. This slide is the typical caveat, that,
37 obviously, projections are based on strong assumptions, which I
38 mentioned, and that, if any of these assumptions are violated,
39 such as by a change in selectivity that might be caused by, for
40 example, a change in size limit, retention and high-grading, and
41 environmentally-driven fluctuations, then these results will not
42 reflect the true OFL and ABC, which will be higher or lower than
43 these predictions.

44
45 Then here are the acknowledgments, and so, obviously, Jeff and I
46 depend on a variety of people who provided all the data for this
47 stock assessment, and so I just wanted to shout-out to all of
48 the panelists and all of the participants of the SEDAR 51

1 process, and so thank you very much. Are there other questions?
2

3 **CHAIRMAN POWERS:** Thank you. Lee.
4

5 **DR. ANDERSON:** This isn't a question, but it's a comment. One
6 thing I hate is when I go to a meeting and biologists try to
7 assume the role of economists, but I am going to do the reverse,
8 and so I ask forgiveness ahead of time.
9

10 All the time that I've been on the councils and looking at this,
11 I get confused with this overfishing and overfished, and the
12 definition of overfishing is the F rate relative to a standard,
13 and the overfished is the current stock relative to a set stock,
14 but, as you just said, you can overfish and not go to the place
15 where your stock is overfished, and it seems to me, and you can
16 say shut up, Lee, and don't ever say it again, and I won't, but
17 overfishing ought to be defined in terms of is it going to lead
18 the stock to become overfished.
19

20 I think that's what the normal person -- When you go out to the
21 public and say, hey, we've got overfishing, and what does that
22 mean? It means our stocks are going bad, but, even according to
23 this stuff, it doesn't, and so that's the confusing thing to me,
24 and I understand what you are saying, and I'm not saying you're
25 right, but I'm talking about just presenting an argument. Sorry
26 for my intervention.
27

28 **CHAIRMAN POWERS:** Will.
29

30 **DR. PATTERSON:** I think you're right that it is confusing. It
31 was less confusing when MSST was being defined as one minus M
32 times the SSB at MSY, because then you had a smaller buffer, and
33 so the biomass at MSY was not too far away from the MSST, but,
34 now that you're at one-half, then it is.
35

36 It's very confusing, and, because of the MSST definition, that
37 creates this disconnect, but I think one way that we could
38 possibly get around that is, when we present figures to the
39 council and we put the SSB MSY line in it and we put the MSST.
40 We say, based upon the council's approach to defining what is
41 overfished, that's this line down here. However, this would be
42 the line at fully rebuilt, had you had a recovery plan.
43

44 **CHAIRMAN POWERS:** How did we end up getting here? I mean, it
45 seems pretty obvious, to me, that the two things ought to be
46 compatible, and I'm not sure what our -- I am sure there is some
47 SSC responsibility in how we got here, but, mechanically, a lot
48 of councils define MSST as half of BMSY, and, for a lot of

1 stocks, it probably is that, but, traditionally, we have always
2 done the one minus M sort of approach.

3
4 One of the things that happens is, if something is overfished,
5 then you have to have a recovery plan, and so, by moving from
6 one minus M to 0.5, you no longer have to have a recovery plan,
7 and so that's when things start getting -- Issues like this
8 start arising, but, in some sense, to me, this isn't confusing
9 at all, but it's not right either. Luiz.

10
11 **DR. BARBIERI:** Thank you, Mr. Chairman. I agree. To me, I
12 don't think this is confusing at all, and I want to really
13 commend Shannon and Jeff for the way that they presented this
14 here, and I think this makes it very easy for the council and
15 the public to see that there are decisions that are being made,
16 in terms of how the stock is being managed and how their
17 reference points are set, and they stayed in their lane here, in
18 terms of explaining the technical issues associated and saying
19 to the council that here are the things that you are likely to
20 see, because of this inconsistency in exploitation and biomass
21 reference points, just so you understand that those things are
22 going to come up from time to time, and you're going to be asked
23 these questions. I really think it's well done, and it clearly
24 explains the issue in a way that is very clear to see.

25
26 **DR. PATTERSON:** But isn't the bigger issue here that the council
27 is asking us to reevaluate where we set the proxy for MSY for
28 this stock? Originally, it was at 30 percent, and they have
29 asked for some runs to get us to consider whether F 26 percent
30 SPR might be a better proxy.

31
32 **MR. GREGORY:** This is Doug. May I comment?

33
34 **CHAIRMAN POWERS:** Yes. Go ahead, Doug.

35
36 **MR. GREGORY:** I agree with Will, in that putting that BMSY line,
37 and it shows a consistency with the definition of MFMT, and this
38 confusion was created by Congress in using the words
39 "overfished" and "overfishing" without defining them, and then,
40 when they were defined, in terms of MSST being overfished, it
41 was not consistent with the scientific literature, which had
42 historically considered anything fishing beyond BMSY as being
43 overfishing and a stock being overfished if it was below BMSY,
44 and so that's the inconsistency.

45
46 If they had said MSST was a depletion or a potential recruitment
47 collapse level, a threshold that's got to be exceeded, it might
48 have been less confusing, but we have it, and I think that's

1 why, in the second iteration, or in 2007, with the guidelines,
2 it was clarified that we should be managing based on MFMT, which
3 is consistent with the historical definition, and so the MSST is
4 just a fallback position if things go to hell and the fishery
5 collapses.

6
7 It shouldn't collapse as long as we're managing by MFMT, and
8 we'll have these circumstances that we've got with gray snapper
9 now, that we experienced throughout the 1990s, because, when you
10 first do a stock assessment, you are looking at the pre-
11 management history, and so things were overfished, and
12 overfishing was occurring, historically, but probably not now.

13
14 I think, going forward, everything will work out, but I agree
15 that putting that BMSY biomass level in is a good reminder that
16 that is a level the council should be aware of, in addition to
17 MSST. Thank you.

18
19 **CHAIRMAN POWERS:** I also think that we as an SSC should sort of
20 reiterate that the FMP goals are not to keep things from being
21 overfished, but it's actually to have something called optimum
22 yield, and so you relate that to maximum sustainable yield, and
23 so the idea is that, if it's not overfished, everything is okay,
24 and I think that's only the case if you define optimum yield in
25 such a way, and so we really need to reiterate that the standard
26 is maximum sustainable yield and FMSY and BMSY and that sort of
27 thing, and so, just by the fact that it's above 50 percent BMSY,
28 it isn't necessarily what we're striving to achieve. Sean, you
29 had a comment?

30
31 **DR. POWERS:** I understand, actually, in this case, the council's
32 basic line of reasoning, and that is tell me why gray snapper is
33 different than red snapper, and we should be more conservative
34 with gray snapper.

35
36 I think the risk we run though is, if we're wrong on red
37 snapper, then we're really wrong, because now we have two
38 species in this issue, and so I think we need to think about is
39 there justification why gray snapper is in a different state
40 than red snapper, and, secondly, with the notion that we're just
41 advising in this case, and the SPR is a risk decision, and so
42 that is the council's decision, but I think that's what they are
43 asking us here, is why the two different standards for a species
44 that doesn't live as long as red snapper and why are we managing
45 it a higher SPR.

46
47 **DR. PATTERSON:** First, we've had this conversation before, but I
48 disagree with the idea that the council is at liberty to set

1 where the SPR is for any given stock. I think that's a
2 biological, scientific decision, and then management -- The risk
3 is the probability of overfishing, given that threshold and the
4 cost of that, once it happens, but, in this case, we have the
5 red snapper versus gray snapper deal.

6
7 With red snapper, the proxy by the SSC that was recommended back
8 in 2005 was F 30 percent, but, because of all the selectivity
9 issues in the various fisheries, it basically was a pragmatic
10 choice, in the end, that it was reduced to 26 percent, but the
11 original proxy was set at 30 percent.

12
13 The third thing is we don't have any information here, in this
14 document, or this work, that would enable to us to make a
15 decision whether 26 percent was a better choice than 30 percent
16 for MSY for gray snapper.

17
18 We do have a recent analysis that we've considered here that
19 Skyler Sagarese put together that was a more complete management
20 strategy evaluation of these various proxies up to 50 percent
21 SPR for stocks, and, for stocks such as gray snapper, or similar
22 life histories, the advice was F 40 percent is actually
23 biologically a more realistic or probable proxy for MSY than 30
24 percent, and so 30 percent already is a reduction from that, and
25 that's the only hard scientific evaluation that we have for this
26 region considering these questions.

27
28 **CHAIRMAN POWERS:** Thank you.

29
30 **DR. SCYPHERS:** Just one other thing that came up was it seemed
31 like the council's issue was that there's not a biological basis
32 for the selection that was made, but, looking back at the notes,
33 in that meeting, we spent a lot of time talking about the
34 caveats that Shannon mentioned there, and, specifically, I think
35 what we focused on was that some of the fishing characteristics
36 of this fishery were beyond just the biology, and it was that
37 there seemed to be some uncertainty on discarding behavior, and
38 the shore-based fishery didn't have the best data, from what I
39 recall, and then there was quite a bit of uncertainty on some of
40 the early, like age-one surveys.

41
42 We spent a lot of time talking about like how the fleet was
43 behaving and when size limits changed, if discarding changed and
44 those types of things, and so it was a little bit more of a
45 broader discussion than just the biological part too, and I
46 don't know if that helps or conflates.

47
48 **MR. RINDONE:** I think we're both fixing to say the same thing,

1 which is that, in the amendment to the fishery management plan,
2 the council has the option and the purview of considering
3 different yield streams, if they're applicable, and so,
4 ultimately, what they have asked for here is for you guys to
5 take a look at the products resulting from 26 percent SPR and
6 are they appropriate and what would be the resultant ABC
7 recommendation to come from that, based on the application of
8 the ABC control rule.

9
10 **DR. CASS-CALAY:** The Science Center hasn't commented on the most
11 appropriate SPR to select. I mean, essentially, what we've done
12 is presented what we feel is the lower bound and an upper bound,
13 and the lower bound was actually 0.24, and the upper bound is
14 0.4, and so, within that range, the Science Center is -- At
15 least, it basically supports values within that range.

16
17 However, I agree with you, Steven, that this committee has
18 already expressed concerns with a number of the data inputs for
19 this stock assessment, and so, for example, the discards are
20 poorly known, and the recreational landings themselves are
21 poorly known, and, when we get the new estimates of recreational
22 landings, I suspect this will be one of our most impacted
23 assessments, because of the shore mode, which is large.

24
25 I think it's possible to separate the SPR decision from that,
26 but certainly it should be considered when you apply your P*
27 value, and so what I was showing you with the 0.4, which was
28 selected last time, is it does result in very small buffers, and
29 so, if you are wrong about SPR, and your buffers are very small,
30 you do run a higher than expected risk of overfishing. What I
31 am urging you to do is consider whether you think that small
32 buffer really reflects your concept of the scientific
33 uncertainty from this stock assessment.

34
35 **DR. FROESCHKE:** Kind of what the council has asked to do is they
36 have added alternatives to establish or modify the ACL, and,
37 currently, you guys provided guidance on yield streams at F 40,
38 F 30, and they have added F 26, and Shannon has provided model
39 projections based on that, but I think what we're hoping that
40 you will provide is some yield stream at F 26 that could be
41 based on what Shannon provided, and it could be the same yield
42 stream as F 30 or something, but it's my understanding that the
43 council has the -- They can add options for SPR 26 and the
44 corresponding yield streams, and so your obligation is the OFL
45 at ABC, which could be based on whatever rationale you all have,
46 but, essentially, for us to move forward in the management,
47 that's what we're hoping you guys can come to some agreement on.

48

1 **DR. POWERS:** Stepping back just a second, but related to that,
2 do you have the ABCs we recommended, and can we get those
3 compared to what Shannon came up with?
4

5 **DR. FROESCHKE:** They may be slightly different, because what
6 Shannon has provided today incorporates two more years of
7 additional landings, or three years, and so they might be
8 slightly different, but we'll pull up what you have, and so the
9 other part is that, based on the information she has now, the 30
10 and the 40 are likely different, and so we would probably ask if
11 you want to update those for the document as well.
12

13 **DR. PATTERSON:** I am just curious why I don't recall that we
14 gave two yield streams, one for F 30 and one for F 40.
15

16 **DR. FROESCHKE:** It's in the amendment that that hasn't been
17 defined as part of the status determination criteria, and so the
18 council is considering both of those alternatives for MFMT, and
19 so, once they select one of those, you would want the
20 corresponding yield stream to go with it, and so that's why we
21 provided it.
22

23 **MR. RINDONE:** I sent the Gulf SSC's review of gray snapper to
24 Charlotte to send around to you guys, and so you will be
25 receiving that in a second. At the very tail-end of that
26 document is the OFL and the ABC recommendations that you guys
27 made based on F 30 percent SPR, with a P* for the ABC of 0.4.
28 You should be getting those in a moment.
29

30 **CHAIRMAN POWERS:** Luiz, did you want to --
31

32 **DR. BARBIERI:** I just wanted to discuss a few points. I mean,
33 we're talking about a number of different things here, I think,
34 that are getting kind of conflated somewhat. The council is
35 looking at a number of reference point levels here as part of
36 this regulatory amendment, and so they haven't made a decision,
37 and they are actually starting to review the stock status
38 determination criteria for gray snapper, and so, to me, what we
39 being asked to do here is look at these runs, these projections,
40 and see if they follow appropriate methodologies for structuring
41 and configuring projections.
42

43 There are different levels that are being considered here, but I
44 don't think we are being asked to make a point about which one
45 is better or worse. If we're going to talk about uncertainty
46 and scientific uncertainty, and I don't disagree with Steven's
47 comments about the fact that we did discuss a lot of the
48 uncertainty, but then we have a P* of 40 percent for this stock,

1 and, if we want to have a lower probability of overfishing,
2 because there is more uncertainty than we can actually account
3 for, and Shannon made that point very clear.

4
5 If you advise the council to use a lower value of P^* than 0.4 --
6 I mean, I think that would be more appropriate for us to do than
7 actually wading so far into the 26 versus 30, especially because
8 the four percentage points in an SPR kind of framework,
9 considering all the uncertainties that we are to -- I mean, it's
10 really lost in the shuffle, right, and we can probably not
11 really account for those differences very well.

12
13 If folks on the committee, and I am just putting this out there
14 as discussion points, feel that the uncertainty -- Our previous
15 recommendation did not take into account, really, all the
16 uncertainties that are not accounted for in our control rule,
17 because we applied our ABC control rule to determine this level
18 of P^* .

19
20 If we think that there's more that we couldn't account for, then
21 I suggest that we recommend a different level of P^* to the
22 council that is lower than 0.4 percent, and, in terms of the
23 projection yield streams, I would recommend that we kind of make
24 a recommendation there to the council based on the technical
25 content of the projections and whether the methodologies are
26 appropriate, if there's something that we feel is out of line,
27 and let the council add all these options to their management
28 plan as they consider development of those stock status
29 determination criteria.

30
31 **DR. POWERS:** I understand where you are going, Luiz, but I do
32 think you are punting on the major issue. I mean, from a
33 practical point of view, we have seen this. Even if we let the
34 P^* be as low as it can be, which I think is 0.3, it doesn't
35 provide much of a buffer, and I would think, if we really think
36 that this stock should be managed at an SPR of no less than 30
37 percent, we shouldn't make that scientific recommendation.

38
39 **DR. BARBIERI:** I know, Sean, but think about this. I can't
40 justify, appropriately, why I would recommend any of these
41 levels of SPR, one versus the other, on any objective criteria
42 that I can clearly define, either biological or otherwise.

43
44 Obviously, the buffer is going to be small, because, since we
45 cannot actually estimate steepness of the stock-recruitment
46 relationship, we are already expressing our reference points on
47 a per-recruit basis, and so that by itself explicitly points out
48 that we cannot really understand the recruitment dynamics here

1 in this stock and how it relates to the parental stock, and so
2 that's a major uncertainty that we are not really accounting
3 for, and we acknowledged that by not accepting the stock-
4 recruitment relationship and setting reference points that are
5 based on proxies.

6
7 To me, all of this is kind of like somewhat formulaic. I mean,
8 we know the characteristics of these things, how the data work
9 and what to expect, in terms of the uncertainties that are
10 unaccounted for, but I -- I guess back in maybe it was October
11 or September, and I don't remember, but I happened to be the SSC
12 representative presenting this stuff to the council, and they
13 asked me, explicitly, why 30 versus 26, and here we have another
14 species that is short-lived, relative to the other one, and how
15 can you account for the biological productivity of this stock in
16 any way different, and I couldn't really explain what criteria
17 we accounted for.

18
19 Now, here, the 26 is actually coming out of a global analysis
20 that was conducted by the Center, and we reviewed this here and
21 actually determined it to be best scientific information
22 available, that methodology, and so what I'm looking for is can
23 we stay consistent with those decisions, and, if not we better
24 develop a -- I feel -- If I'm going to be that person going
25 before the council to present our report, I want to make sure
26 that I have, from this committee, clear guidance on, if we
27 disagree on using the 26 percent, why, very specifically, and is
28 the productivity of the stock considered different from the
29 other one, because I am going to be in that situation there in
30 front of the council and having to answer that question.

31
32 **DR. PATTERSON:** As far as the inconsistency, or perceived
33 inconsistency, between red snapper at 26 percent and gray
34 snapper at 30 percent, the recommendation was for red snapper to
35 be at 30 percent, but, because of the different reductions in
36 the various fisheries and how that all came together, because of
37 selectivities, you end up with a projection at 26 percent, and
38 there's a whole long record of how that was, how that came to
39 be, but the original proxy was 30 percent, as recommended by the
40 SSC.

41
42 The second issue about what do we have that we can actually hang
43 our hat on here, historically, when we talked about these
44 proxies and F 30 percent, it became sort of the default in this
45 region. You know, we looked at stuff on the west coast that
46 Ralston and others had done for longer-lived, live-bearing
47 sebastids and other species, and so we didn't make those
48 decisions in a vacuum, but now we have this new analysis by

1 Skyler et al. that clearly shows that, for an animal that has a
2 life history similar to gray snapper, that F 30 percent might
3 not be that conservative, and F percent, or something higher
4 toward that, would be more appropriate for an animal with that
5 life history.

6
7 I am not advocating for that, but I'm just saying that we have
8 information that, if we need to develop a rationale for why this
9 is selected, it's not inconsistent with the scientific
10 literature, nor is it consistent with what happened with red
11 snapper.

12
13 **DR. BARBIERI:** Will, that's a very good point, but think about
14 this. We are talking -- This is something that, here, we have
15 discussed several times, about limit and target reference
16 points, all of the changes in the management philosophy,
17 basically, the Magnuson-Stevens Act, has brought up. In terms
18 of this discussion, we are talking here about a limit reference
19 point.

20
21 Now, the council, and you have made that point several times,
22 and I thought very appropriately, and Joe brought it up today
23 earlier, and I feel, at some point, we're going to have to
24 suggest to the council that we work with them more closely on a
25 target reference point and that they start managing more based
26 on an optimum yield target reference point, but this is really
27 to set a limit reference point.

28
29 This is why I feel like, when we look at some of these things,
30 when we look at F 30 or 40 or 26, we are really splitting hairs
31 over something that becomes very difficult to explain as a limit
32 reference point, because we are talking about developing stock
33 resilience, and we are talking about rebuilding age composition
34 of the stock and all those things that are valid, but those are
35 more in the realm of target reference points, to build that
36 resilience.

37
38 Here, we're saying, okay, where do we get to the point, and this
39 is the very definition of a limit reference point, where we need
40 to look for the next gas station, and we stop, because that's
41 going to be -- We are below the quarter tank, and we are
42 actually at the E there, and we say, okay, we have enough gas to
43 run a little longer, until we can find the next gas station.

44
45 It's not ideal, but the car is not going to stop at that point,
46 and so, to me, that makes a big difference, acknowledging that,
47 yes, going to some advice to the council that would lead them to
48 manage more on a target reference point would be ideal.

1
2 **DR. POWERS:** A couple of points. John Froeschke, when he
3 brought up this question, asked us a very limited question,
4 which I interpreted as is the projection stream at F 26 percent
5 done correctly, and I have no doubt that Shannon did that
6 correctly, if that is the limited question, but I think we have
7 broadened it, and I think that we have enough reasons that
8 Shannon and Steven talked about, and Luiz, where, from a
9 practical point of view, you would talk about why we want to
10 manage this differently than red snapper.

11
12 Now, they're not exactly in terms of productivity, and it's more
13 in terms of uncertainty, which gets back to couldn't we adjust
14 the P* value, but I don't think that gives us enough buffer, and
15 so I am more -- I would feel more consistent if we went with the
16 F 30 percent, F SPR 30 percent projections, to give us a wider
17 buffer.

18
19 **CHAIRMAN POWERS:** Doug, did you want to say something?

20
21 **MR. GREGORY:** Yes, Mr. Chair. Two things. One, let's look at
22 it pragmatically. I don't recall where it is, but it seems to
23 me that, no matter what is selected as MFMT, the fishery is
24 going to recover within one year, next year, or this year.

25
26 This is more a philosophical, I think, sticking point for the
27 council, and I know that Will has brought up this paper by
28 Harford et al. a couple of times now, and I don't think this
29 analysis has been presented to the SSC, but it centers around
30 steepness, which is something that we have talked about a lot
31 since the concept of steepness really came into the literature
32 in the early 2000s, and we looked at it, I think, initially with
33 Rose et al., where the steepness was 0.8 for this kind of
34 species, or 0.9 for that.

35
36 I think it's worth looking at, if we're going to take this,
37 because this paper that is being referenced was a simulation
38 analysis that said, given certain prior distributions in their
39 analysis, F 40 percent was good for gonochoristic, but, if
40 steepness happened to be 0.8 or higher, 30 percent SPR was
41 appropriate for gonochoristic, and so, really the whole decision
42 centers around steepness, and I think we need to have that
43 broader issue for future stock assessments, and I think it was
44 also pointed out of a different approach between the Atlantic
45 coast and the Gulf coast and this concept of steepness.

46
47 Should steepness be estimated by the model? It seems like, when
48 that happens, it's usually around 0.99, which suggests there is

1 no stock-recruitment relationship, which creates a whole other
2 set of problems, or can, like we've done with risk
3 probabilities, can we say that certain species of gonochoristic
4 or not be handled with different steepness levels or range of
5 levels?

6
7 It's very similar to picking a range of M, and you get different
8 results based on that, but it's like we're hiding our heads in
9 the sand by not addressing it though, and it seems critical to
10 everything we do. Thank you.

11
12 **CHAIRMAN POWERS:** Just a comment. It always bothers me when
13 people sort of separate steepness versus SPR, and they are
14 really mapped one into the other. If you pick a steepness, you
15 will get an SPR relative to whatever standard you pick for FMSY,
16 and vice versa. You can translate that, and so, by picking an
17 FMSY proxy, we are, in effect, picking steepness, assuming a
18 Beverton-Holt anyway, and so just keep that in mind, that all of
19 these things are related, and the reasons we end up doing
20 proxies are because we don't estimate steepness, but, by picking
21 the proxy, we are, in effect, picking steepness, but that's just
22 a little aside. John, you had --

23
24 **DR. FROESCHKE:** Just to follow-up on Sean, I guess, more
25 specifically, what the council has asked is, based on Shannon's
26 new information, can the SSC provide updated OFL and ABC
27 recommendations that could be based on those projections for the
28 purpose of modifying the ACL in the document, and so, in the
29 past, you provided F 40 and F 30, and they have asked for F 26,
30 which you could provide, and it wouldn't have to be based on
31 Shannon's information, or it could be, and so we could include
32 those in the document. The rationale and all of that I think is
33 -- That is more your decision on how you want to do that, but I
34 guess that's what we're trying to get.

35
36 **CHAIRMAN POWERS:** We are bouncing around here.

37
38 **DR. CASS-CALAY:** I agree with Doug about the Harford paper,
39 which there were some technical reasons related to the selection
40 of the stock-recruitment curve that was used for that simulation
41 that led the Science Center to think that that is probably an
42 upper bound on what we think is a rational choice as an SPR
43 metric.

44
45 The global analysis was also done for red snapper, and it
46 produced an SPR of about 26 percent for red snapper. For gray
47 snapper, that analysis produced an SPR of 0.24, and so the
48 council is actually just -- They are not going to the extreme

1 low bound that we would have allowed.
2
3 I think the larger question, in my mind, is the buffer between
4 OFL and ABC. The SPR level, whether it's 26 percent or 30,
5 matters very little, and I don't think there's enough biological
6 basis for us to pick one of those over the other, honestly, and,
7 to me, there is some -- I do appreciate consistency of decisions
8 more than some, and so it doesn't -- To me, if we are going to
9 use this global analysis for red snapper, there doesn't seem to
10 be any reason why we would reject it for another species.

11
12 **DR. PATTERSON:** Did we use the global analysis for red snapper,
13 or did it just come out consistent with what had been done in
14 the past?

15
16 **DR. CASS-CALAY:** It came out consistent with what had been done
17 in the past, and so, yes, there were reasons why we were at SPR
18 26 before that analysis supported it, for different reasons, but
19 we did that analysis to actually try to determine what we
20 thought would be a good biological basis for an SPR metric, and
21 it also produced 26 percent, and so that was just good fortune,
22 I suppose.

23
24 **CHAIRMAN POWERS:** I think one school of thought that has come up
25 here is the council asked for a yield stream for F 26 percent,
26 and I think we could probably, with a consensus, say we ought to
27 provide that, or will provide that, and so that's one aspect.

28
29 Then the other thing that we have really discussed here is the
30 disconnect between specifying overfishing with one metric and
31 overfished with another metric, and we want to convey that, and
32 a third thing, which I don't think we're coming to much
33 consensus about, is actually what is -- Well, the third thing
34 is what is the, quote, unquote, best estimate for FMSY and what
35 proxy ought to be used, and the fourth thing is what kind of
36 buffer.

37
38 I think we probably have gotten some kind of consensus, maybe,
39 about the first one, the what is the yield stream with an F 26
40 percent SPR, and I don't think we have any problem with
41 providing that. Okay. The second thing, what was the second
42 thing?

43
44 **SSC MEMBER:** The consistency.

45
46 **CHAIRMAN POWERS:** Yes, the consistency between the metrics, and
47 I think -- I mean, that should be something that, in the summary
48 of the meeting, that we present to the council, and clearly some

1 of the graphics with the suggestions by others about how you
2 display what is happening and that the assessment itself is very
3 consistent, but it's just what metrics you're using to define
4 certain aspects.

5
6 The SPR 26 percent versus 30 versus 40, I'm not really hearing a
7 lot of appetite for really defining, or redefining that. Well,
8 I will leave it open, basically, but the one thing that we
9 haven't really discussed much is the fourth thing, is the P*
10 portion of it, and I would like to kind of focus the discussion
11 on the P* portion of it, if we can, because, essentially what
12 we're saying is -- Originally, we were saying we have an SPR of
13 30 percent, but maybe it could be as low as 24 percent, and
14 maybe it could be as high as 40 percent.

15
16 One could make an argument, based on some of these other
17 analyses, that maybe the low side of that range, below 30
18 percent maybe, is a little more highly likely, a little more
19 likely, and not highly likely, and so how does that relate to
20 the P*?

21
22 I mean, we have all of this uncertainty, and, presumably, with
23 the more uncertainty, that P* is going to require a bigger
24 buffer, and so that implies lower TACs and ACLs and things like
25 that, and so that's kind of where we are right now, and I would
26 like to focus the discussion, for the time being anyway, on the
27 P* and how we relate those to what we think we know about the
28 FMSY and that sort of thing. Will.

29
30 **DR. PATERSON:** As Shannon indicated earlier, when you have all
31 these fixed parameters, and you're not estimating steepness in
32 the model, when you project that into creating a PDF of future
33 yield streams, that PDF is very leptokurtic, and it doesn't
34 matter if P* is 0.25.

35
36 If talk about P*, but it's really the P* approach, where you
37 have the P* that comes from our semi-objective, at least
38 consistent, table that we apply, but it relies on that
39 distribution, and so we've talked about different ways, when we
40 have an assessment such as this, where you produce a sigma from
41 the assessment that is really small, is maybe borrow -- We
42 talked about borrowing from the meta-analysis that Ralston et
43 al. did on the west coast, and I know that there had been some
44 meta-analysis done in the Gulf too, or at least we saw a
45 technical document that showed, from different assessments, what
46 that might be.

47
48 I mean, that's a whole other approach, but it doesn't really get

1 us around the issue that, for this assessment, given historical
2 precedent of how it was done in the Gulf, this is what we're
3 left with. We select a P* based on the table, and then we have
4 the PDF based on the assessment.

5
6 **CHAIRMAN POWERS:** Shannon, did you want to say something?

7
8 **DR. CASS-CALAY:** I always want to say something. Well, I think,
9 within your own tiers and dimensions table, the lower limit is
10 0.3, and I can give you the value that corresponds to using a P*
11 of 0.3, but you have also, on other occasions, used alternative
12 ABC metrics, with justification, and so that was the origin of
13 producing the F, what I am calling FOY, with apologies to
14 economists. It's really just 75 percent of FMSY projection, is
15 something you have considered in the past, but, basically, we
16 have the results here, and we can generate an ABC for you if you
17 just tell us what your specifications are.

18
19 **CHAIRMAN POWERS:** Jeff first and then Will.

20
21 **DR. ISLEY:** I think it's going to be hard to justify anything
22 other than 0.4, based on our history and the criteria that we
23 use. Otherwise, we are violating our own procedures.

24
25 **DR. PATTERSON:** Didn't we already recommend the yield stream at
26 F 30 percent with a P* of 0.4?

27
28 **CHAIRMAN POWERS:** Yes.

29
30 **DR. PATTERSON:** So we would have to withdraw that and then
31 recommend something different.

32
33 **DR. FROESCHKE:** One thing that -- In the presentation, I think
34 Shannon mentioned it, but, in the process of generating the
35 projections at F 26 percent, she also updated the 30 and the 40,
36 because they included additional years of landings, and so one
37 thing that would be, I think, nice to have some input is do you
38 think those are the most appropriate ones to use going forward,
39 for both the 30 and 40 percent, because they are slightly lower
40 than the ones that you made previously, because they didn't
41 include as much information.

42
43 **CHAIRMAN POWERS:** Personally, I don't have any problem with
44 that. It is what it is, and using the same methodology, but
45 including the additional catch data, and there is no reason that
46 we shouldn't pass that on to the council, in my opinion.

47
48 **DR. BARBIERI:** A question for John and Ryan, perhaps. Just let

1 me walk through how the process here -- Because this is a bit
2 different than what we have done for some of the other species,
3 because we have already established stock status determination
4 criteria for those stocks, right, and so, in this case here, we
5 recommend yield streams of OFL and ABC, but, because the council
6 hasn't yet picked what level they are using for stock status
7 determination criteria, we are providing them with ranges, a
8 variety of levels, as they go through that process, and so I
9 think this is why John asked.

10
11 If we look at the technical methodology of how the yield streams
12 were generated, the council is going to be looking at those
13 yield streams, and they are going to choose one based on their
14 decision on the stock status determination criteria. After they
15 do that, they pick one of those streams, and they are likely to
16 pick a stream that has already been reviewed, and is technically
17 sound, by the SSC, and is that correct?

18
19 **DR. FROESCHKE:** Yes, and Charlotte could just put up the
20 document that the council reviewed in January and go to Action
21 1, and maybe this will make it more clear. Essentially, as Luiz
22 described, the council is going to be establishing status
23 determination criteria for gray snapper.

24
25 The first action of this is establishing an MSY proxy for gray
26 snapper, and we don't have one on the books, and the options
27 that they're considering are the MSY proxy, which is the yield
28 of fishing, at 30 percent SPR, or 40. At the January council
29 meeting, they said, well, let's add an alternative for 26, which
30 is within the council's purview, based on my understanding.

31
32 At the council, we discussed, well, if we would add that as an
33 alternative for an MSY proxy, we would also want the
34 corresponding landings to go with that, and so we requested that
35 to the Science Center, which they provided, and so we're just --
36 The council has just asked for what those landings would be, and
37 so that's sort of how we got there, but, on the screen here,
38 essentially the updated version of this document will contain an
39 additional alternative, probably between 1 and 2, to keep them
40 in order, at 26 percent, and then there will be a status
41 determination for the MFMT, to correspond with that, and then
42 the landings.

43
44 Of those metrics, at least my understanding, and someone can
45 correct me, the SSC's purview is to provide OFL and ABC
46 recommendations for those, based on whatever you feel is the
47 right thing, and so that's essentially, what we're trying to get
48 to.

1
2 **DR. NANCE:** Under the scope of work here, the SSC should review
3 yield streams based on F 26 percent SPR proxy and provide
4 updated OFL and ABC recommendations for gray snapper.
5

6 **CHAIRMAN POWERS:** But the discussion has gone beyond that.
7

8 **DR. NANCE:** It has, yes.
9

10 **CHAIRMAN POWERS:** There's no reason that it shouldn't, other
11 than timing issues. Bob.
12

13 **MR. GILL:** Thank you, Mr. Chairman. First of all, I think it
14 would be well-advised if we put on a future agenda this
15 uncertainty in the yield stream PDFs and how we want to handle
16 it on a normal basis. We talk about it frequently.
17

18 Secondly, to your point, one of the things we have to do is
19 provide them, since they are now having an opt-in for 26
20 percent, to offer the yield streams for that, and I'm prepared
21 to make a motion to do that, if it --
22

23 **CHAIRMAN POWERS:** Before you do the motion, I just want to make
24 a comment. One of the things that is always a difficulty is if
25 we as scientists start presenting lots of options without some
26 supportive discussion. Then the interpretation often is that
27 each one of these options are equally likely, and we have to be
28 careful, I think, and, even if they are equally likely, what are
29 the consequences of that, which sort of leads to Lee's
30 presentation last year and how we -- This is the kind of thing
31 that a discussion leader would sort of bring out, is what are
32 the consequences, but that's just an aside, and so, Bob, go
33 ahead.
34

35 **MR. GILL:** Thank you, Mr. Chairman. To that point, it seems to
36 me that, subsequent to however we handle this motion that I am
37 about to proffer, is the second one would be to consider the
38 revision of the yield streams for 30 and 40 percent, since the
39 current analysis yields different numbers than the previous
40 recommendation we had, and, once that is done, then we have, to
41 your point, the obligation to provide a recommendation on which
42 one to use of those three.
43

44 Whether we like it or not, the council's prerogative is to
45 choose the MSY proxy, because it's a risk assessment, as Sean
46 pointed out, but we can make a recommendation, but it's our
47 advice, and our advice can be accepted or not accepted, and I
48 guess, before I go forward, I would like to hear from Ryan.

1
2 **MR. RINDONE:** Thank you, Mr. Gill. To satisfy the council's
3 request of the SSC, it seems to be captured in recommending
4 yields for 26 percent, but, given that we've had updated
5 information also for 30 percent and 40 percent, and perhaps a
6 second motion that would follow that could be the SSC's
7 recommendation. That way, you guys directly address the request
8 from the council, and then you provide an additional
9 recommendation to the council for advice for moving forward.
10 That way, the two are parsed.

11
12 **MR. GILL:** To that point, since we've had considerable
13 discussion about how to establish the ABC yield stream, my
14 thinking was to proffer the motion for 26 percent, which we have
15 to do anyway, and that will establish whatever methodology we
16 choose for the ABC determination, and then that would,
17 therefore, parse directly into the 30 and 40 percent, and so I
18 was going to two-step it and allow that to progress, at least in
19 my mind, naturally.

20
21 **CHAIRMAN POWERS:** You have the floor.

22
23 **MR. GILL:** Thank you, Mr. Chairman. **The committee recommends**
24 **that, for Gulf gray snapper, for the years 2019 through 2021,**
25 **the yield at F 26 percent SPR, using a P* of 0.5 applied to the**
26 **OFL PDF, be the OFL per the table below. The ABC, using a P* of**
27 **0.4, is recommended, and the table has three columns of years,**
28 **OFL, and millions of pound whole weight and ABC. Will is**
29 **objecting.**

30
31 **DR. PATTERSON:** I am not objecting, but just a point of
32 clarification. If you copy and paste that motion for F 30
33 percent and F 40 percent, each of them are going to read
34 recommends, recommends, recommends, and it sounds like we're
35 making a recommendation for what the ABC and the OFL should be,
36 when, in fact, really we're just stating that, based on this
37 analysis, these are what the values are.

38
39 **MR. GILL:** Well, I guess my view is a little different, and that
40 is, for that MSY proxy, that would be our recommendation, once
41 we settle out on the numbers.

42
43 **DR. PATTERSON:** I don't think it's a recommendation. I think
44 it's just a statement of fact.

45
46 **MR. GILL:** Well, they are going to choose one of the proxies
47 with the associated yield stream, and we recommend the OFL and
48 ABC, above which they cannot go, and so it has to be a

1 recommendation. I will leave it open. I will fill the table
2 out, and that's a good point for discussion.

3

4 **CHAIRMAN POWERS:** Well, finish your motion.

5

6 **MR. GILL:** I think John is getting it filled out.

7

8 **MR. RINDONE:** The OFLs are for 2019, for F 26 percent SPR, for
9 2019 is 2.587, 2020 is 2.575, and 2021 is 2.564. The ABC for
10 2019 is 2.516, 2020 is 2.512, and 2021 is 2.507.

11

12 **SSC MEMBER:** Historically, we've just gone to two decimal
13 places, and is that your intention to go to three?

14

15 **MR. GILL:** No, you're right, and it should be just -- So it
16 would be 2.59, 2.58, and 2.56, 2.52. 2.51, and 2.51.

17

18 **CHAIRMAN POWERS:** Is there a second to the motion?

19

20 **SSC MEMBER:** I will second it.

21

22 **CHAIRMAN POWERS:** Okay. We have a second. Going back to what
23 Will has talked about, the statement in there that the ABC is
24 using a P* of 0.4 is recommended, are we saying that the ABC is
25 recommended or the 0.4 is recommended? I mean, what are we
26 trying to emphasize there?

27

28 **DR. NANCE:** Both, but the way it's reading is we're recommending
29 that ABC using a P* of 0.4.

30

31 **CHAIRMAN POWERS:** But that implies that we're also recommending
32 F 26 percent SPR. Another way to look at this is, all right, if
33 you pick 26 percent SPR, our recommendation is that the P*
34 should be 0.4, and that implies that the ABC would this, this,
35 and this, and that's why I'm not sure which direction we're
36 trying to go with this. Bob.

37

38 **MR. GILL:** Thank you, Mr. Chairman, and that's a point well
39 taken, because we're in a relatively unique position that the
40 council has got three options of three different MSY proxies,
41 and, normally, we present our recommendation as a single unit,
42 which is from what the original motion was derived, and so my
43 suggestion is that, to get around that, after 2021, we put a
44 comma and then "if used", to recognize that -- Because we have a
45 subsequent motion, it seems to me that we're likely to make,
46 that says our recommendation on which MSY proxy to use is thus
47 and so.

48

1 **CHAIRMAN POWERS:** Okay. Will.
2
3 **DR. PATTERSON:** To address what Joe was mentioning earlier about
4 the P*, you could add, after "P* of 0.4", "as computed using the
5 council's P* control rule".
6
7 **MR. RINDONE:** ABC control rule.
8
9 **DR. PATTERSON:** ABC control rule, yes.
10
11 **CHAIRMAN POWERS:** Bob.
12
13 **MR. GILL:** I think bigger issue is what we want to do relative
14 to ABC with adequate buffer, whether we want to continue that
15 approach or use another one, and that's why I thought putting it
16 up as single figure that out, and then use that as the format
17 for down the road, and so, if folks are comfortable with where
18 it's at, then, okay, we establish it. If we want to do a
19 different way, then we have to modify the motion accordingly.
20
21 **CHAIRMAN POWERS:** I want to make sure we get this right,
22 because, in our previous discussion about the sort of how we're
23 approaching these motions, the expectation anyway of other
24 motions relative to other F SPRs, and so, if this is being
25 interpreted as being picking F 26 percent SPR, there's no need
26 for the other motions, and so I want to make sure what exactly
27 we're voting on.
28
29 The words that were introduced there, the as computed, et
30 cetera, are trying to send a signal that this is a calculation
31 based on the F 26 percent SPR and isn't necessarily a
32 recommendation of F 26 percent SPR. Sean and then Will.
33
34 **DR. POWERS:** I would offer that you be much more direct in the
35 statement and start it with "If the council chooses an F 26
36 percent SPR, then", so we make it clear that it's the council's
37 decision and not ours.
38
39 **CHAIRMAN POWERS:** Can somebody guide through actually making
40 those changes?
41
42 **DR. POWERS:** I think Will had a comment.
43
44 **DR. PATTERSON:** I would approach this entirely differently.
45 What I would say is that we recommend -- It includes how this is
46 going to be phrased. If you state that we accept, as best
47 scientific information, the projections, as computed by the
48 center, and then state that as done for F 26 percent, F 30

1 percent, and F 40 percent, given these three proxies, the yield
2 streams are below. That way, you don't say anything about
3 recommending if they do this or if they don't do that, but you
4 just say we accept it as best science, and these are the streams
5 that resulted from that analysis, and then it's just there all
6 together.

7

8 **SSC MEMBER:** I second that.

9

10 **DR. POWERS:** Agreed.

11

12 **CHAIRMAN POWERS:** This is why we need to craft some of these
13 motions ahead of time, I think. The one thing that I was
14 interpreting from Bob's motion, in terms of recommendations, is
15 the P* of 0.4 is being recommended.

16

17 Now, Will has suggested an entirely different framework for this
18 motion, and I got the gist of what it from what he said, but can
19 you repeat it, and then perhaps we can think about actually
20 formulating it on the page?

21

22 **DR. PATTERSON:** I am fairly ignorant of Roberts Rules, and I
23 don't know how this should be presented, but, basically, and you
24 were talking to Tom there for a second, but the way I would
25 approach this is to say that we accept the projection analysis
26 as best science. Given that, the results are for an MSY proxy
27 of 26 percent, 30 percent, and 40 percent, and the yield streams
28 are as follows, and so it doesn't -- And using a P* on the PDF
29 of retained yield of 0.4, which results from applying the
30 council's ABC rule, this is the ABC yield.

31

32 That way, we have the three tables together, and we're not using
33 the language "recommends", because we're just stating that we're
34 recommending to the council that this is the best scientific
35 information, and then these are the resultant yield streams for
36 OFL and then ABC based on a P* of 0.4.

37

38 **MR. GILL:** I agree, and it certainly could be done that way, but
39 it seemed to me that one of the issues before we did that was
40 the question of buffer and how to compute it, and that's why I
41 didn't go that way, and so, from a standpoint of if you would
42 like to change it, then I would make a substitute motion and
43 revise it accordingly, but the discussion around the table this
44 morning has been considerable about the adequacy of capturing
45 the scientific uncertainty between OFL and ABC, and it wasn't
46 clear to me that there was agreement within this group of how we
47 ought to compute that, whether we go with the P* approach or we
48 do 75 percent or some other mechanism, and so that's why I

1 thought, well, start with one and, instead of making this big,
2 grandiose motion, which it would be pretty long, and settle that
3 uncertainty capture for ABC determination. Once that's done,
4 the rest of them just fall out. If you want to redo it, I have
5 no problem, because I think we're trying to get to the same
6 place, but it's just a question of how.

7

8 **CHAIRMAN POWERS:** Luiz.

9

10 **DR. BARBIERI:** Thank you, Mr. Chairman. Bob, I don't disagree,
11 philosophically, at all, with everything that you said, but I
12 think that Jeff earlier brought up a good point about the
13 process that we have in place for recommending an ABC according
14 to our ABC control rule, and so we have a codified process in
15 place that we have already used.

16

17 Now, I think we are eligible to review or revise that
18 recommendation according to new information if well justified,
19 but, according to NS 1, we're supposed to provide ABC
20 recommendations according to our ABC control rule, which is a
21 codified process, and we applied that ABC control rule, and we
22 came up with a 0.4.

23

24 At that meeting, or whenever that happened, we had the
25 discretion to depart, and that's explicit in NS 1, that we can
26 depart from applying the ABC control rule if we justify why we
27 would like to do something a bit different, but I feel that now
28 we are revising some of those issues. I mean, I don't see the
29 uncertainty that we evaluated before being any different than
30 what it is now, and I see it more as a much more cumbersome
31 process for us to change our P* recommendation now from what we
32 did before, and that's -- I heard what Jeff said, and that, to
33 me, hit home.

34

35 **SSC MEMBER:** To that point, we also haven't been presented any
36 information at this meeting to actually base any changes off of
37 that, and so, if we've made a decision at previous meetings of
38 an SPR 30 percent, and you made a previous decision at a P* of
39 0.4, what have we seen here today that we could base any changes
40 to those decisions on?

41

42 **CHAIRMAN POWERS:** Again, I think we're -- What is it that we're
43 trying to convey, and the yield streams with different SPRs is
44 essentially what has been asked for, and I think that's what we
45 are trying to provide, but we want to make sure that what the
46 SSC recommendation is relative to selection of those -- I mean,
47 we haven't been real demonstrative about picking one over the
48 other, and so what has changed relative to that, I mean, that's

1 sort of an issue.

2
3 My feeling is that we're getting close to lunch, and so one of
4 the things that we can do is sort of revisit this stuff after
5 lunch, and perhaps use that time period to have a set of
6 alternative motions that are more explicit that we can actually
7 at on the board here, but, before we go, Jim.

8
9 **DR. TOLAN:** I want to close this with a very pessimistic
10 statement, and I am worried about, when the council asks for
11 these different yield streams under different F percentages,
12 while it is their purview to do that, I always take it as they
13 are going to pick the number that gives them the most poundage
14 to be able to throw out to the public, and, while, again, that's
15 their purview, it really does depart from the established ABC
16 control rule that we're supposed to be working under, and so
17 it's a very pessimistic statement, but I think they're going to
18 pick the biggest number.

19
20 **CHAIRMAN POWERS:** Shannon.

21
22 **DR. CASS-CALAY:** We have had some conversations like this,
23 expressing these same concerns, and I think, basically, the
24 agreement, as I understand it right now, is that the SSC and the
25 Science Center will, in any case, provide a plausible range and
26 that they have at least made a gentleman's agreement with us
27 that they won't go outside of that range, and so we'll see how
28 this works, in practice, but, so far, this request is still
29 within the range that we discussed at the last SSC meeting.

30
31 **DR. TOLAN:** To that point, in my very recent memory, we were
32 asked to provide 22 percent for red snapper, and so it's a very
33 low number. It's even lower than what we're working with now,
34 and so, again, it's what the biggest number we can throw out
35 there for the fishing public to be able to land, and that's what
36 I am worried about, because, again, we're departing from what
37 Luiz was talking about. We have an established protocol that
38 we're supposed to follow under NS Guidelines, and so we're
39 getting outside of that box.

40
41 **CHAIRMAN POWERS:** I think we should take the opportunity of
42 lunchtime to come up with a couple of options. There has
43 certainly been a lot of discussion that needs to be considered
44 in our motions relative to this, and, again, it's not the
45 information itself, but it's the emphasis being placed on the
46 information and what signal we're trying to send, and so, with
47 that, the lunch is already here, and so I think we should
48 adjourn for lunch, but don't get up. I have to read something

1 here.

2
3 Today's session includes a working lunch paid by panel members
4 who will not have an opportunity to leave the meeting to procure
5 food for themselves elsewhere. When lunch is served, please
6 allow panel members ample opportunity to obtain their meal.
7 After that, others can help themselves. You have been advised,
8 and so let's take this opportunity, and maybe an extra fifteen
9 minutes for lunch, to try to come up with some options, in terms
10 of these motions and proposals. Will, did you have a comment
11 before we go?

12
13 **DR. PATTERSON:** Just a quick one. I sent a potential motion to
14 Charlotte that reflects some of that discussion.

15
16 **CHAIRMAN POWERS:** Okay. Let's get back together then at -- We
17 will reconvene at 1:15.

18
19 (Whereupon, the meeting recessed for lunch on March 13, 2019.)

20
21 - - -

22
23 March 13, 2019

24
25 WEDNESDAY AFTERNOON SESSION

26
27 - - -

28
29 The Standing & Special Reef Fish, Mackerel, Shrimp, and
30 Socioeconomic Scientific and Statistical Committees of the Gulf
31 of Mexico Fishery Management Council reconvened at the Gulf
32 Council Office on Wednesday afternoon, March 13, 2019, and was
33 called to order by Chairman Joe Powers.

34
35 **CHAIRMAN POWERS:** We are dealing with Agenda Item VI, and there
36 was a motion that was put up, which is the one that's one the
37 board here, and there was another motion that was suggested,
38 that one, and so I think, Will, you were the one that brought up
39 the second one, and are you suggesting this a substitute motion?

40
41 **DR. PATTERSON:** Yes, I guess that's what it would be. Bob and I
42 talked about this a little bit at the break, but, basically,
43 this captures what I was saying before about we would be
44 accepting the approach and the output as best science and then
45 just having the three tables below this for each of the three
46 proxies, and so we wouldn't really be recommending one versus
47 the other, but we would be just saying that all of them are --
48 That's the scientific output, given what the council wanted to

1 see.

2
3 **CHAIRMAN POWERS:** Okay, and so each one of those tables should
4 be labeled F 26 percent, F 30 percent, and F 40 percent, and so
5 the understanding is -- We don't have it right here right now,
6 but the understanding is that the substitute motion would
7 contain those other two tables as well. Bob.

8
9 **MR. GILL:** I will second the motion.

10
11 **CHAIRMAN POWERS:** The tables themselves exist in Shannon's
12 presentation, correct? Okay. Bob.

13
14 **MR. GILL:** Thank you, Mr. Chairman, and so this gets back to
15 that discussion about recommendations versus non-
16 recommendations, and the question is, in my mind, and our past
17 history is always we recommend an OFL/ABC under certain
18 conditions, that sets the ceiling for the council.

19
20 Given this wording, which is different, will the council
21 understand that basically it's the same thing? We are no longer
22 recommending and setting that ceiling for OFL and ABC, and we're
23 just saying this is the best available science, but it stops
24 there, and so there's a question, in my mind, whether those that
25 read this motion and the context of what it's trying to achieve
26 and what the council needs -- Whether they will come away with
27 the same message, or, for that matter, anybody else.

28
29 **DR. PATTERSON:** What I foresee is we have already presented the
30 council with a recommendation based on the 30 percent SPR proxy
31 before. This is updated with the landings information, and so
32 the streams, as John Froeschke pointed out, have changed. This
33 simply is just a listing of the tables.

34
35 What I would foresee then as a follow-up motion is one that
36 would say the SSC's earlier recommendation for setting OFL and
37 ABC based on the 30 percent proxy hasn't changed. However, the
38 scientific information has slightly changed, because we have
39 updated landings information.

40
41 Therefore, the streams for OFL and ABC have changed, and they
42 are below, and so we didn't discuss whether, as a group, we
43 wanted to go away from our earlier advice of F 30 percent SPR,
44 and we kind of talked around it, but that is what I foresee,
45 whether we pick that or we pick one of the others to say this is
46 what our scientific advice is. That would be a second motion,
47 where you actually recommend the OFL and ABC.

48

1 **MR. GILL:** In response, Will, and I'm fine with that, but we
2 make our recommendation, and let's say it's 30 percent SPR, just
3 for talking purposes, and the council reviews all of this and
4 then says, nope, we're not doing 30, and we're doing 40 or 26,
5 and it's no longer our recommendation for that MSY proxy. Does
6 it, therefore, have the same weight, if you will, as the
7 recommendation for the proper MSY proxy and the resulting yield
8 streams, and it's not clear to me that it does. If I was the
9 council, I would wonder.

10
11 **DR. PATTERSON:** Sure, and it gets to the whole argument about
12 scientific advice versus management preference that we've talked
13 about back and forth with this for some time. We have already
14 recommended to them that F 30 percent is the appropriate proxy
15 and given them projections for three years based on that proxy,
16 and we did that previously, and so we're already on record as
17 having selected that, unless we want to change our rationale and
18 decision on that, and then we simply have to update it, but that
19 motion is already in the record.

20
21 **CHAIRMAN POWERS:** All right. When you originally drafted this
22 motion, I interpreted it as there is another follow-up motion to
23 come after it, and so this is a mechanical thing, but where do
24 we put the three tables? Do you want them right here in the
25 substitute motion?

26
27 **DR. PATTERSON:** I think they need to be labeled as which of the
28 proxies --

29
30 **CHAIRMAN POWERS:** Okay. The actual numbers will --

31
32 **DR. PATTERSON:** Bob, I think some of the issue about what's here
33 and not here we can make clear in the report, in that section,
34 and state the discussion was about whether this was the best
35 science, and the council wanted to see these yield streams, and
36 they have been provided, and we don't make any recommendation
37 based on just those yield streams. However, our earlier advice
38 was that F 30 percent -- Maybe we make a decision to go away
39 from 30 percent, but we haven't really discussed that yet.

40
41 **MR. GREGORY:** This is Doug. Mr. Chair, may I comment?

42
43 **CHAIRMAN POWERS:** Yes. Go ahead, Doug.

44
45 **MR. GREGORY:** As Will said earlier, I think we're kind of
46 talking around the issue. By including the 26 percent SPR in
47 this, we're not saying anything in addition to this, and we are
48 agreeing that the 26 percent SPR yield stream is included in the

1 best available data category, and this gets back to the
2 presentation we got by Ms. Levy in October and the changes we
3 made to our October minutes in January to be explicit that our
4 job is to tell the council if they have done something that is
5 unscientific or not scientifically supported.

6
7 Given the comments I heard this morning that the analyses done
8 for gray snapper would support any SPR from 24 percent and
9 upward, that gives me confidence that the Center is supportive,
10 from a science standpoint. We may not be happy with it, but it
11 has scientific support, and so, whether we come out and say it
12 explicitly or just include it here, we're saying the same thing,
13 and we're giving the council the leeway to go forward with this.
14 Thank you.

15
16 **DR. BARBIERI:** I agree with Doug wholeheartedly there. I think
17 that we can provide the council with some advice on which one of
18 these SPR levels we feel is most appropriate, but I don't think
19 we can do this without providing some solid justification behind
20 it of why we believe one is better than the other to represent a
21 proxy for MSY for gray snapper, and so, at this point, I'm
22 looking at this, Bob, as basically looking at the analysis that
23 the Center provided and generating yield streams of OFL and ABC
24 at three levels of reference points and that we agree that this
25 is considered best scientific information available and the
26 analysis is done correctly and it follows standard
27 methodologies, and we don't have any concerns with the results
28 of this analysis, is the way I see it.

29
30 Now, recommending a level for the council to assume, in terms of
31 what is going to be the reference point to be used as a proxy
32 for MSY, to me, that is a different issue, and, if we want to
33 provide that recommendation, we can, and it's just a matter of
34 justifying that reasoning.

35
36 **DR. PATTERSON:** I think we could address both Doug's concern and
37 what Luiz just mentioned in a couple of edits to this. First,
38 instead of saying "represent the best available science", we
39 could say something like "computed with statistically-valid
40 methods" or "appropriate methods". That way, it's not arguing
41 about best science. That's the jargon we typically use when we
42 examine stock assessments, but, that way, it alleviates this
43 confusion that Doug mentioned might exist, because now we have
44 three outputs, and we're saying all of them are best science,
45 and so they can pick which one, and so it's just simply saying
46 that they're computed --

47
48 **CHAIRMAN POWERS:** Can you actually just say some words, so

1 Charlotte can put those in there?

2
3 **DR. PATTERSON:** Where you have that highlighted, just say
4 "computed with statistically-valid methods" or "appropriate
5 methods". Instead of "valid", "appropriate". I think that
6 alleviates the confusion that Doug was mentioning could possibly
7 exist with this.

8
9 Lastly, it doesn't have to be, but we could put a last sentence,
10 and this doesn't have to be typed out yet, that says the SSC
11 earlier recommended an SPR proxy of 30 percent SPR for gray
12 snapper, and this is an updated yield stream based on new
13 landings data that didn't exist at the time of that
14 recommendation, and so it just doesn't argue one way or the
15 other. It says we've already made that recommendation, and this
16 is just an update, given the new landings data.

17
18 **DR. NANCE:** I would recommend that last sentence not be in
19 there, because I think that confuses the issue. I think this,
20 like it is right now, I think presents what we want to present,
21 that these three SPR values are scientifically valid.

22
23 **DR. POWERS:** I agree with Jim on that, that that last sentence
24 that Will proposed should be in a separate motion, if we feel
25 that strongly that we need to reaffirm it, and I do think that
26 we need to give them guidance, building on what Doug is saying,
27 and remind them that we're not changing our SPR recommendation,
28 and so I do think a second motion will be necessary.

29
30 **CHAIRMAN POWERS:** Jim.

31
32 **DR. TOLAN:** That was the point that I was going to make, and
33 Sean just did it. I think the second motion is appropriate, and
34 it does address the historical information that we're trying to
35 convey that we already said 30 percent is appropriate for this
36 species.

37
38 **CHAIRMAN POWERS:** All right. Is the horse dead enough to be
39 beaten? We want to deal with this motion as it exists right now
40 on the board. Yes.

41
42 **SSC MEMBERS:** Will, maybe some wordsmithing. That first
43 sentence is actually not a sentence, and can we just say
44 "computed with statistically-appropriate methods or valid
45 options", and then, on the FSPR, that last value for the ABC, I
46 think it should be 1.80 and not 1.77.

47
48 **DR. PATTERSON:** It should say "were computed", between "F 40

1 percent SPR" and "computed", you need the word "were".
2
3 **CHAIRMAN POWERS:** Bob.
4
5 **MR. GILL:** One more minor wordsmithing. Between "with" and
6 "statistically", add the words "the same", so that nobody
7 concludes that, well, maybe we used one for one method and one
8 for something else. **Between "with" and "statistically", add the**
9 **words "the same".**
10
11 **CHAIRMAN POWERS:** Thank you. Can we vote on this? All right.
12 **All those in favor of the motion say aye; all those opposed.**
13 The people on the webinar, Doug, how do you vote?
14
15 **MR. GREGORY:** Aye.
16
17 **CHAIRMAN POWERS:** All right. Andrew. Harry.
18
19 **MR. BLANCHET:** Yes.
20
21 **CHAIRMAN POWERS:** At this point, we'll keep Andrew as an
22 **abstention, or just not voting. The motion carries. Ken.**
23
24 **DR. ROBERTS:** Thank you, Mr. Chairman. Just for the record, is
25 it clear who made the substitute motion and who seconded it?
26
27 **CHAIRMAN POWERS:** Will made the substitute motion, and Bob Gill
28 seconded it.
29
30 **DR. CASS-CALAY:** Your ABCs are higher than your OFL, and so
31 something is wrong for that 40 percent there. There was an old
32 document, and it might have gotten -- That was the error in the
33 old document, before I -- Your SPR 40, one second, and I will
34 give you the right values.
35
36 **CHAIRMAN POWERS:** The actual numbers in the table are not
37 correct.
38
39 **DR. CASS-CALAY:** They are transposed. There was an extra column
40 in one of the spreadsheets I had. All right. They are supposed
41 to be -- Your OFL is 1.64, 1.72, 1.80, and your ABC should be
42 1.59, 1.68, 1.76. If you want me to look at the rest of them,
43 one second, and I will.
44
45 **CHAIRMAN POWERS:** What did you just say?
46
47 **DR. CASS-CALAY:** I'm going to look at the rest of the values in
48 that table, just to be certain that they are fine.

1
2 **CHAIRMAN POWERS:** I am going to give her some time to do that,
3 because I don't want to have to revisit this.
4
5 **DR. CASS-CALAY:** Yes, those values are correct, and it was just
6 the one table that had it --
7
8 **CHAIRMAN POWERS:** All right. Is there anybody that wants to
9 change their vote based on this change? If not, the motion
10 carries. All right. The supposition was that there was going
11 to be another motion brought up addressing something. Will.
12
13 **DR. PATTERSON:** The SSC moves that its earlier recommendation
14 that Gulf gray snapper be managed with a 30 percent SPR proxy
15 remains unchanged. However, updated landings data have changed
16 the OFL and ABC, the projected OFL and ABC, levels for fishing
17 years -- Whatever those years are above.
18
19 **CHAIRMAN POWERS:** Then you could add those updated yield streams
20 are reflected in the previous motion. All right. Is there a
21 second?
22
23 **DR. ISLEY:** Second, Mr. Chairman.
24
25 **CHAIRMAN POWERS:** Jeff Isley seconds it. Yes.
26
27 **SSC MEMBER:** Thank you. I heard reference earlier to new
28 information that verified or that suggested an equally
29 appropriate range, and would someone review that? I am not
30 familiar with that document. I heard reference to values from
31 26 to 40 percent, as a result of some new analysis or new paper,
32 or maybe I made that up or misunderstood what I heard.
33
34 **DR. CASS-CALAY:** There were two papers presented, and one is the
35 global SPR paper, and I think that one is probably authored by
36 Matt Smith or Dan Goethel, or both, and then the other paper was
37 Bill Harford et al., and that's where the 40 percent
38 recommendation came from, and so they were both presented, I
39 believe, at the SSC meeting -- I guess in August, and so they
40 should be in that directory, but they were the basis for the
41 range of plausible values, and so we thought that 24 percent SPR
42 was the lowest possible biological plausible value and 40
43 percent represented the upper bound, the Science Center thought.
44 You should find those references in the August SSC folder.
45
46 **CHAIRMAN POWERS:** Thank you. Is there any other discussion on
47 the motion? Luiz.
48

1 **DR. BARBIERI:** Thank you, Mr. Chairman. I would like to hear
2 some justification, I guess, for whatever information can be
3 provided to support this motion and the SSC recommendation. I
4 just don't have that clear, in my mind, of why 30 would be
5 better than 26. I guess I can understand why you wouldn't go to
6 40, but I don't have that clear in my mind.

7
8 **CHAIRMAN POWERS:** I think the -- I mean, the supposition was
9 that nothing has changed and that this is what has been
10 recommended before and that the -- We aren't judging whether
11 that recommendation has changed, or that we want to change that
12 recommendation, but, rather, we're saying that the updated yield
13 streams are the result -- The changes in the F 30 percent SPR
14 updated yield streams are a result of the changes in the
15 catches, and that's kind of where we're leading, but I see your
16 point that it implies -- It sort of raises a can of worms.

17
18 If we start discussing whether we go along with an earlier
19 recommendation, do we need to justify again why we had that
20 previous recommendation and so on? Those are some of the
21 issues. Go ahead, Luiz.

22
23 **DR. BARBIERI:** To that point, Mr. Chairman, the council was
24 provided, I think it was at their September meeting, with our
25 recommendation for gray snapper that had been based, really, at
26 the time, just on what -- I think Matt came and gave that
27 presentation, and we recommended 30 percent SPR.

28
29 I did not feel, going through the report and the stuff that was
30 there, I did not feel very comfortable seeing the rationale
31 behind the 30 percent, at that time. Here, I see an additional
32 issue, because the council has now wanted to expand its range of
33 options and include 26, and so it's looking at three levels now,
34 26, 30, and 40, and expecting us to say, okay, do you have any
35 scientific concerns with any of these levels that we are
36 recommending or that you are putting in front of us here for
37 consideration, and, if so, why?

38
39 We are reviewing, in my view here, those reasons of why our
40 previous recommendation is superior to the three that they are
41 considering right now, or the other two that are being
42 considered, and I just envision myself being asked that
43 question, during the council, of why 30 and can you provide me
44 with that justification of why 30 is better than 26, in this
45 situation.

46
47 **CHAIRMAN POWERS:** Tom, you had a comment?
48

1 **DR. FRAZER:** Thank you. I don't want to speak for the whole
2 council, but I will speak for me, and I think the way that I
3 would pose the question to Luiz at the council meeting is, very
4 briefly, what is the rationale or justification for 30 percent,
5 but I would -- Rather than saying -- At the best, I would say
6 what are the consequences of going to 26 or 40, because that's
7 where the decision will be made. That is essentially going to
8 reflect your confidence in one of those three measures.

9
10 **CHAIRMAN POWERS:** Thank you. Will, did you have --

11
12 **DR. PATTERSON:** We had the documents that Shannon mentioned when
13 we made this decision previously, and so you can go back to the
14 record of those discussions, and that exists in the historical
15 record. I don't know how much of that is in the report, and I
16 don't remember how much of that discussion was captured in the
17 report, but we had this discussion then, and, if somebody wants
18 to propose a substitute motion, or we can have the discussion
19 about whether one of these is absolutely preferred or a better
20 approach, and that's fine, but I didn't hear anything in the
21 discussion earlier that would suggest one or the other was
22 better than what we had already vetted and decided upon in the
23 earlier discussion, and so, if that's true, then that could be
24 presented.

25
26 **CHAIRMAN POWERS:** One outcome of this is, if this motion were
27 voted down, nothing would change, but what I mean by that is,
28 basically, we would still be operating under that previous
29 recommendation, without any discussion of it, and then,
30 secondly, there has been ample discussion of what those yield
31 streams mean and why they changed, because of the additional
32 catches for the ensuing years, and so that's something to think
33 about, too. Sean.

34
35 **DR. POWERS:** I disagree that nothing would have been changed,
36 because, I think, without the second motion, they're going to
37 interpret that first one to say that we think that all three are
38 equal, and I don't think all of us are saying that all three are
39 equal, and I think the question you're going to have, Luiz, is
40 why is this different than red snapper, when the biology -- We
41 have talked about the differences in our impressions of those
42 stock assessments and the uncertainty associated with those
43 stock assessments, and I know that it's mentioning uncertainty
44 with a productivity measurement, and I understand that, but, at
45 some point in time, I would think this body, if we have three
46 choices that we can't separate, based on current analysis, that
47 we rely on our best professional judgment, and that is valid,
48 and that is what we can communicate to the council, because I

1 think, no matter how you boil it down, at some point in time, it
2 is based on our best professional judgment.

3
4 **CHAIRMAN POWERS:** When I said nothing has changed, I was
5 presuming that, if this motion doesn't exist, that the
6 recommendation of the SSC has been a 30 percent SPR, and,
7 whether this motion passes or not, that's what I meant. Correct
8 me if I'm wrong, but, anyway, Luiz.

9
10 **DR. BARBIERI:** I think, Sean, that's an important point, because
11 we made that recommendation already, right, and so I don't see
12 why -- I mean, if that stands, that we made that recommendation
13 of 30 percent, that stands, and the council is still free to
14 take that recommendation or make their own choice, because that
15 is part of the record, and that was put forth already,
16 officially, before the council.

17
18 Now, this, to me, if we're going to make a new motion to
19 reinstate that preference -- I am just looking at the role of
20 the SSC as scientific advisors. Yes, we can use our best, and
21 should be using our best, professional judgment here, but I
22 think we've got to be careful not to step into an arbitrary and
23 capricious type of operation, where we provide recommendations
24 that we cannot properly justify based on scientific criteria.

25
26 To me, it's a matter of -- I agree with you, Joe. I think that
27 we made that statement already, and we already put before the
28 council our recommendation, and it has been -- It's actually in
29 the record, official record, at a council meeting, when that
30 presentation was given, and we have our report, which is part of
31 the official record, administrative record, as well.

32
33 Now, to restate that in a vacuum, I feel it's going to put us in
34 a situation to justify again why we're making this choice, and
35 so that's what I am trying to clarify and why I'm asking for
36 that justification now. If we want to make the motion again
37 about the 30 percent, there's a reason behind it, and I think we
38 need to justify it based on the scientific criteria, and it
39 might be just our best professional joint judgment, but I still
40 think that the council is relying on us to serve as scientific
41 advisors and explain to them why we are making a recommendation
42 over another.

43
44 **CHAIRMAN POWERS:** We have Will and then Lee and then Kari.

45
46 **DR. PATTERSON:** I agree that we shouldn't be making arbitrary or
47 capricious recommendations, but we're not doing that here. We
48 have a record of why 30 percent was selected, and we can, in the

1 report for this, quote ourselves from the earlier report, the
2 earlier discussions, and say how we arrived at that, because we
3 had a pretty robust discussion about this when it was last
4 considered.

5
6 As far as the potential confusion about why red snapper is
7 managed one way, or we recommend one proxy for it versus gray
8 snapper here at 30 percent, the easy explanation there is both
9 of them were recommended at 30 percent, but, if you will recall,
10 back in 2005, when the various fisheries had to be reduced in
11 order to get to -- In the rebuilding plan, they chose the
12 proportional reduction, and, because the selectivities of those
13 different fisheries differed, it ended up being a slightly
14 different proxy, because of the shift in what you get left over
15 when you reduce shrimp by 70 percent versus the benthic longline
16 commercial fishery by the same percentage.

17
18 That 26 percent was a result of that management choice of the
19 reductions, given the selectivities of those various fleets, but
20 the -- Because it was so close to 30 percent, we all said, you
21 know what, good enough, given the choice of the council to
22 reduce everything proportionally, but the scientific
23 recommendation was 30 percent, and it was just a pragmatic
24 solution, after we looked at what the council wanted to do, to
25 try to rebuild -- In the rebuilding plan, to recover the stock,
26 but the rationale was the same, except, back then, we didn't
27 have this new information, the new analyses, to actually look at
28 this in more depth, which we did consider the last time we
29 looked at gray snapper.

30
31 **DR. ANDERSON:** I guess I'm a little frustrated by this.
32 Earlier, when we were talking about the summaries of the
33 reports, we say that we want to make it easier for people to
34 understand, and I think, when you hear this motion, people
35 around the table said, well, remember, we already had that 30
36 percent, but is everybody who reads this going to know that? I
37 think, for simple clarity, this is important to put in, having
38 it in the same document, so the general readership and people
39 who study this know what it is. Let's be clear and straight.

40
41 **DR. MACLAUHLIN-BUCK:** I think Will actually answered it
42 already.

43
44 **CHAIRMAN POWERS:** I guess I would ask John Froeschke, and would
45 this change the preferred alternative in the amendments? It's
46 just going to add another alternative, but the preferred is
47 still 30 percent?

48

1 **DR. FROESCHKE:** I don't think they have selected a preferred for
2 the MSY proxy, and I can check. Let me check.
3
4 **CHAIRMAN POWERS:** While he's checking, Luiz.
5
6 **DR. BARBIERI:** I think one of the issues that's going to weigh
7 on this is whether that paper and the presentation from the
8 Science Center evaluates any of the specific values, and it
9 doesn't, but it just says that there's a range between 24 and
10 40.
11
12 **DR. CASS-CALAY:** Yes, the Science Center did not provide
13 guidance on any particular SPR number. We just essentially
14 supported a biologically-plausible range.
15
16 **CHAIRMAN POWERS:** Let me allow John to --
17
18 **DR. FROESCHKE:** At the January council meeting, the council made
19 motions to add a 26 percent SPR and MSY proxy, and they did not
20 select a preferred, and so the 30 percent was already in there,
21 and so I recall that they didn't select a preferred for this or
22 for the MFMT that would correspond, and they were waiting on the
23 landings stream to come back before selecting a preferred for
24 the ACLs.
25
26 **CHAIRMAN POWERS:** Tom.
27
28 **DR. FRAZER:** I'm just trying to facilitate a dialogue between
29 the council and the SSC and think about what's going to happen
30 when Luiz is there in Biloxi, and I do expect that the question
31 will be, again, what was the rationale, and I appreciate that
32 there's a record and there's a history, but there's actually a
33 subtle difference, and I think many of the council members, and
34 I in particular, would want to know what's the consequences of
35 selecting one of the others.
36
37 I don't think that I get that from the rationale of simply why
38 30 was the preferred. It's a subtle difference, but it's one
39 that helps people make a decision. In the absence of being able
40 to defend that, I think, as Jim pointed out, the default will
41 probably be to select 26, because it provides you the largest
42 yield.
43
44 **CHAIRMAN POWERS:** Will.
45
46 **DR. PATTERSON:** Well, there has been no management strategy
47 evaluation done for this stock, but we do have the general
48 simulation strategy work that was done that was used for the

1 rationale for the 30 percent, and, in a general sense, if we
2 estimated steepness, and it ended up being quite low, therefore
3 the true SPR percentage at MSY was 40 percent. Then, if you
4 fished it at 26 percent, that's riskier than 30 percent, but,
5 other than that, we don't really have information that we could
6 share that would say, definitively, this is the absolute risk
7 level, or these are the implications. We can only give you that
8 relative information.

9
10 **CHAIRMAN POWERS:** I don't see a lot of difference. If we accept
11 this motion, then I would certainly interpret it as it's just
12 reminding the council that we've already made this
13 recommendation of 30 percent SPR and reminding them also that
14 the updated yield streams have been updated based on ensuing
15 catches.

16
17 If we vote it down, we have -- We are still with the 30 percent
18 SPR recommendation, and there has certainly been a lot of
19 discussion that document where those yield streams came from,
20 but Lee's point is call a spade a spade, and here it is, and
21 reminding us, and so, again, I don't see a lot of difference
22 between voting yes and voting no for this, because we're really
23 not going to get into the further justification at this point in
24 time, but, in the same respect, what we want to do is be as
25 forthright with the council as possible, in terms of what it is
26 we're saying. Harry, did you have a point?

27
28 **MR. BLANCHET:** I hope so. I feel really awkward trying to
29 participate in some vigorous discussion like this from a
30 distance. It seems to me that the concern that I have over this
31 is that we seem, with this motion, to be inserting ourselves in
32 a dance we weren't really asked to dance at.

33
34 I think that we can, and maybe I am getting too particular about
35 this, but, if we just have, as a note in our SSC report, that,
36 during our discussions, the SSC noted that its earlier
37 recommendation that Gulf gray snapper be managed at 30 percent
38 SPR proxy remained unchanged, I think that in the report does
39 what needs to be done without it looking to the council like
40 we're trying to tell it its own business.

41
42 **DR. PATTERSON:** That's not a bad idea, Harry, but we tend to
43 operate under these motions, and we can't discuss it until its
44 up on the board, and now it's on the board, and, if it's
45 withdrawn, it's going to be in the record, and then the council
46 may ask why it was withdrawn, given that you then state that
47 you're going to use the same rationale as before, and so I
48 think, a lot of the issue about how and where and why and what

1 for, we can spell that out in the report.

2
3 This isn't going to be in a vacuum. There is going to be
4 supporting information that details why this was important to
5 state and then what the supporting information is, and we had a
6 robust discussion about this range, and we had one before, and
7 there is always uncertainty when you pick a proxy, and it's just
8 uncertainty.

9
10 However, we didn't have, I don't feel, any additional
11 information to change our earlier proxy, and so, given that, it
12 remains unchanged. It's not we fully endorse this whole-
13 heartedly, but it's what we came up with before, and there is no
14 new information that would lead us to a different conclusion at
15 this point.

16
17 **DR. TOLAN:** I just going over the meeting notes from that
18 particular discussion, and it was all couched in what we talked
19 about earlier, what the definition of the spawning stock biomass
20 ratio is, whether it's one minus M or whether it's half the
21 spawning stock biomass, SSB.

22
23 Jeff gave a really nice presentation on that, but, at the end of
24 all of that discussion, we talked about the uncertainty and
25 whether steepness was one or estimated, and it's a fairly
26 emphatic motion that the SSC recommends not adopting any MSY
27 proxy below 30 percent, and that's a pretty strong statement to
28 go to the council to ask why did you pick this, and, based on
29 our last discussion, that's what it should be, and I think
30 that's a pretty good rationale.

31
32 **CHAIRMAN POWERS:** Harry, did you have something?

33
34 **MR. GREGORY:** No, it was me.

35
36 **CHAIRMAN POWERS:** Excuse me. Doug.

37
38 **MR. GREGORY:** I tend to agree with Harry, but I know what Will
39 is trying to do, and I accept that. All the council wanted was
40 to know, and all NMFS has to decide, is was the 26 percent SPR
41 scientifically supported or is it outside the realm of what the
42 science can support, and the answer to that is clear.

43
44 **It's within the realm of what science can support, and I would**
45 **make a substitute motion to the effect that, while the SSC**
46 **acknowledges that 26 percent SPR is scientifically acceptable,**
47 **we still prefer our earlier recommendation of 30 percent SPR,**
48 **because it is slightly more conservative and we have a lot of**

1 **uncertainty in the stock assessment, and so we want to go**
2 **forward with this more conservative measure.**

3
4 Really, all we had to answer was is 26 percent SPR outlandish,
5 or is it scientifically acceptable, and, if we didn't have the
6 Goethel et al. report that was, I think, given to us maybe back
7 in January, we would have a harder time saying that, but we do
8 that that analysis that was presented to the SSC in August in
9 summary fashion by Shannon, and so we have that range of 26
10 percent to 40 percent, and that's why we presented those tables,
11 so we can acknowledge that it's scientifically acceptable, but
12 we still prefer our earlier recommendation, because it is more
13 conservative. Thank you.

14
15 **CHAIRMAN POWERS:** Thank you, Doug. I guess for a substitute we
16 need a second. Lee seconds it.

17
18 **MR. GREGORY:** Please wordsmith it. It was off the top of my
19 head.

20
21 **CHAIRMAN POWERS:** One of the wordsmiths is my particular
22 difficulty, and that's "a more conservative measure".
23 Conservative for whom? That's always my question, and so I
24 would suggest "biologically conservative" or "biologically
25 appropriate".

26
27 **DR. PATTERSON:** The language that the Science Center used was
28 within the range of biologically plausible estimates, and I
29 think that's appropriate, but we also need to state here the
30 estimates of what, and it's scientifically acceptable for what?

31
32 **DR. BARBIERI:** Mr. Chairman, just a clarification here with
33 Shannon, and this may be just because, when we're putting
34 presentations together, things are not written in a way that
35 they reflect, perhaps, but I am looking at the presentation that
36 we were given on August 2, 2018, by Shannon and Jeff, Catch
37 Advice Developed Using Alternative SPR Proxies for the Gulf of
38 Mexico Gray Snapper, SEDAR 51, and it's Slide 2, and the second
39 bullet says "Goethel et al. 2018 concluded that SPR and maximum
40 yield per recruit can be regarded as a lower limit for SPR and
41 MSY. For gray snapper, this value is approximately 23.4
42 percent." I am interpreting this as that this is a statement
43 from the Science Center about gray snapper, and that might be
44 the source of my confusion.

45
46 **DR. CASS-CALAY:** No, I think you're correct, Luiz, that that
47 report went through an internal evaluation, and it was not Jeff
48 and I's presentation alone, and so that is the opinion of the

1 Science Center.

2
3 **DR. BARBIERI:** I think this is relevant, because, again, we
4 received a presentation from our Science Center, and I am just
5 trying to look at those points of being consistent between what
6 we are presented with and how we justify if we consider this
7 valid or not, and yes or no and why, because that's the analysis
8 that we are presented with.

9
10 **SSC MEMBER:** I don't know if it goes to wordsmithing, but the
11 way the motion is worded is a little bit of a departure from how
12 it was narrated. After the "30 percent SPR", there was some
13 clause to the extent of because of the uncertainty in the
14 assessment, and I think that those address some of the issue of
15 why we would have this substitute motion to begin with, because
16 I think Luiz has been asking for some motivations and rationale,
17 and I think that provides it, to some extent, those couple of
18 words there.

19
20 **MR. GREGORY:** Thank you. I would also suggest changing the word
21 "appropriate" to "cautious", "more biologically cautious
22 measure". I don't think "appropriate" is correct here.

23
24 **CHAIRMAN POWERS:** Another alternative is just end it after "30
25 percent SPR".

26
27 **MR. GREGORY:** If there's no objection from anybody else, that's
28 fine with me, because I think we've made a simple request quite
29 complicated.

30
31 **DR. PATTERSON:** This doesn't say anything. While the SSC
32 acknowledges that 26 percent SPR is scientifically acceptable,
33 for what? Right? I mean, acceptable as a proxy for MSY?

34
35 **MR. GREGORY:** Edit it. You know what we're talking about.

36
37 **CHAIRMAN POWERS:** All right. I think we're getting out of hand
38 here. Okay. I am sure there is Roberts Rules of order about
39 how many substitutes you can have for a substitute.

40
41 **SSC MEMBER:** Two.

42
43 **CHAIRMAN POWERS:** Thank you. The way this substitute right now
44 is worded, I would say that technically it isn't correct,
45 because the --

46
47 **DR. ROBERTS:** We need to put the other one back up, because I
48 think it did -- In my opinion, it was a very good one for

1 allowing Luiz to be able to react to council questions and
2 things of why are we picking 30 over 26, and I think the other
3 one did it.
4
5 **CHAIRMAN POWERS:** Which one are you -- Again, this is where
6 we're starting to get convoluted, and I'm not sure what you're
7 referring to.
8
9 **DR. ROBERTS:** The one we had up before we cut off the lower
10 half.
11
12 **CHAIRMAN POWERS:** Okay.
13
14 **DR. ROBERTS:** I think all we had to do was add something like
15 "risk-averse" in there instead of -- Those types of things.
16 Instead of biologically cautious, risk averse is what we're
17 talking about here, and so it's just more biologically risk
18 averse.
19
20 **MR. GILL:** Mr. Chairman, I think it's time to move on, and I
21 call the question.
22
23 **CHAIRMAN POWERS:** All right. Again, with Roberts Rules, you're
24 supposed to vote on calling the question, but I am just going to
25 go ahead and -- Let's vote on this motion. **All those in favor,**
26 **say aye; all those opposed.** We're going to do a hand vote. **All**
27 **those in favor, raise your hand; all those opposed.** Then we
28 also have Doug, Harry, and Andrew. Doug.
29
30 **MR. GREGORY:** I support the motion.
31
32 **CHAIRMAN POWERS:** Harry.
33
34 **MR. BLANCHET:** I am going to defer, pass.
35
36 **CHAIRMAN POWERS:** Andrew, I'm not sure if you're still there.
37
38 **DR. ROPICKI:** I'm still here. I support.
39
40 **CHAIRMAN POWERS:** So what is it?
41
42 **MR. RINDONE:** I got twelve in favor, nine opposed, and one
43 abstention.
44
45 **CHAIRMAN POWERS:** I abstain too.
46
47 **MR. RINDONE:** Two abstain.
48

1 **CHAIRMAN POWERS:** Okay. It carries twelve to nine and two
2 **abstentions.** Sean.

3
4 **DR. POWERS:** I think it's important to note in this, in the
5 summary minutes at least, and I will give my reason, but I just
6 didn't like the wording. There is nothing in the spirit of this
7 that I object to, and so I don't want them to look at a twelve-
8 to-nine vote thinking that it's in favor of a different SPR.

9
10 **CHAIRMAN POWERS:** Well, we all have our reasons for voting the
11 way we do. I think the signal we want to send -- I mean, when a
12 council member sees a twelve-to-nine for a motion, there's,
13 obviously, differences of opinion, and those differences of
14 opinion cover a wide range of kinds of things, and it's not just
15 do I like 26 percent SPR or do I like 30 percent SPR, but
16 there's also other issues about the role of the SSC and things
17 like that, and so I guess this is for Luiz's benefit more than
18 anything else, is reassure the council of the things that we are
19 clear and agree on and that some of these differences don't
20 really relate to all the issues associated with it.

21
22 All right. Thank you. We have completed Agenda Item VI. We
23 will move on to Agenda Item VII, which is Review of FMP
24 Objectives, and who is doing this?

25
26 **MR. RINDONE:** Dr. Matt Freeman.

27
28 **CHAIRMAN POWERS:** Okay. There is a document associated with
29 this.

30 31 **REVIEW OF FMP OBJECTIVES**

32
33 **DR. MATT FREEMAN:** Thank you, Mr. Chair. Hopefully this will be
34 as exciting a conversation. There are no SPRs in the FMP
35 objectives, but I will try my best. The SSC had mentioned, this
36 fall, that they were interested in, in particular, hearing some
37 of the updates that the council was going through with the Reef
38 Fish FMP, specifically.

39
40 We compiled the FMP objectives for all of our species, Reef
41 Fish, CMP, Shrimp, Coral, Spiny Lobster, and Red Drum. Included
42 in those, we've also got just a brief description of the last
43 time those would have been updated, and so, on the first page,
44 we have our Reef Fish FMP objectives.

45
46 Like I mentioned, the council first started reviewing these,
47 most recently, at the October 2018 council meeting, and then
48 they made a few slight additions at the January 2019 council

1 meeting, and so there you have the twelve objectives in front of
2 you, and I can read through them, if folks would like, and I
3 will pause for a second. What would be your pleasure? Would
4 you prefer to read through them yourselves? Okay. I will pause
5 for a second and let anyone who hasn't had a chance to look over
6 those and then see if there's any discussion or comments.

7
8 Like I said, this is the most revised. Currently, we are
9 planning on putting this in the ACL carryover document, which
10 will potentially be going final at the April council meeting,
11 and so that would be where these would be published, in essence,
12 and on the books.

13
14 **DR. MACLAUHLIN-BUCK:** I don't know if you want to go through
15 all of them and then come back and talk about them, but, because
16 the reef fish ones are the ones that are about to be updated,
17 once the carryover amendment is approved, before this update,
18 were the reef fish objectives updated regularly, or did you
19 find, like with CMP, that maybe it's been a while since they
20 have been reviewed? I don't know if you have that information.

21
22 **DR. FREEMAN:** Sure. I know, prior to this, the most recent time
23 they had been updated was in 2014, and I don't recall, right off
24 the top of my head, prior to that.

25
26 **SSC MEMBER:** What is Number 7? What does it mean?

27
28 **DR. FREEMAN:** That's a good question. Do we have our council
29 member handy?

30
31 **CHAIRMAN POWERS:** Dr. Frazer.

32
33 **DR. FREEMAN:** These are ones that the council updated, and so
34 these were nothing that staff drafted, and I should phrase it
35 that way.

36
37 **MR. GREGORY:** Mr. Chair?

38
39 **CHAIRMAN POWERS:** Doug, before we get to you, Tom, there was a
40 question about what does Item 7 there -- What does that mean,
41 and what was the motivation for it?

42
43 **MR. GREGORY:** To that point.

44
45 **DR. FRAZER:** Go ahead, Doug.

46
47 **CHAIRMAN POWERS:** While he's looking it, Doug, did you have a
48 comment?

1
2 **MR. GREGORY:** Yes, and the Item 7 was added probably when the
3 council went through the ACL document and decided to remove
4 certain species from the management unit and to add other
5 species, and so, at that time, that was added as an objective.
6

7 **DR. FREEMAN:** Just to add to that, Objective 7 was added back in
8 Amendment 1, back in 1989, and so that is not, by any means, a
9 new objective. For context, in Reef Fish Amendment 1, related
10 to that objective, it was written that management measures
11 specified in the FMP to establish a database for management have
12 not been successfully implemented. Statistical data for many
13 species have been aggregated into genus or family groups, which
14 has made it impossible to assess the condition of specific
15 stocks adequately. Biological profile data are needed through
16 the Gulf of Mexico on a continuing basis, et cetera, et cetera,
17 and so that's a little bit of context there.
18

19 **CHAIRMAN POWERS:** To me, that would be one that is somewhat
20 suspect, because it really isn't an objective. It isn't trying
21 to achieve anything, but it's just saying that maybe we should
22 look at this stuff. Dave.
23

24 **DR. CHAGARIS:** Just a comment on this. One of the things that
25 makes it kind of difficult is that there seems to be like a mix
26 of fundamental objectives and means objectives, and I am just
27 wondering if the FMP is intended to differentiate for that. For
28 example, Number 2 is definitely -- To conserve and -- Number 1
29 could be either a means or a fundamental objective, and I think
30 the original FMP objectives were something like provide the best
31 utility for the nation or something like that, and so that would
32 be your fundamental objective, but then a lot of these are kind
33 of means objectives. How do you get there is to minimize and
34 reduce dead discards.
35

36 It's kind of a question, as far as how -- How does the fishery
37 management plan differentiate between the objective types, and
38 is it useful to classify them as your fundamental objectives and
39 your means objectives in the management plan, because it seems
40 to be a bit of a mix. I mean, these are -- If you know your
41 fundamental objectives, and that's what you want to achieve,
42 then your means objectives are how you go about getting them,
43 and there seems to be kind of a mix of that here.
44

45 **CHAIRMAN POWERS:** Yes, and some of them directly relate to one
46 of the National Standards, and those are pretty obvious. There
47 is others, things like the derby fishing, that had a lot to do
48 with setting up commercial catch shares and things like that.

1
2 I think my experience with some of the objectives is kind of
3 like our executive summaries. These sort of grow over time, and
4 they should change over time, because of differences in what
5 you're trying to achieve and that sort of thing, and so I would
6 encourage the review of these things, but it's hard to view it
7 the way we have it now, is there's a list of objectives, and
8 some of them are very broad, and some of them are very precise,
9 and it's not clear exactly why one and not the other. I guess
10 what I'm saying, more than anything, is I agree with Dave.
11 John.

12
13 **MR. MARESKA:** I guess just a little bit of wordsmithing on Item
14 Number 2, something that we discussed, and I think it should
15 probably say "should minimize scientific uncertainty and risk
16 for management", and that's just a little nuance. Then I had a
17 question about to conserve and protect reef fish habitat, and
18 what is the council's definition of reef fish habitat? There is
19 diversity of reef fish, and there's quite a diversity of
20 habitat, from seagrasses inshore to open bottoms to the actual
21 hard structures that have vertical relief, and so what was their
22 intent there?

23
24 **DR. FREEMAN:** One moment.

25
26 **CHAIRMAN POWERS:** Some of these things are driven by certain
27 aspects of the management legislation, including fisheries
28 habitat and EFH, essential fish habitat. Those, I think, were
29 some of the motivation for how these sorts of wordings
30 originally got in there. Anyway, Kari, did you have a comment?

31
32 **DR. MACLAUHLIN-BUCK:** With this conversation with the FMP
33 objectives, I was glad that this was on the agenda, in part
34 because I think it's good for the SSC to have some context for
35 some of the management decisions that are brought to you, and I
36 have found though that, at the South Atlantic and the Gulf,
37 that, at the beginning, with the FMPs and the first amendments,
38 there was kind of this focus on identifying problems in the
39 fishery, and then they would specify an objective.

40
41 It wasn't always something that was measurable, and sometimes it
42 was just a little more -- Like minimizing conflicts, and I don't
43 know how you would necessarily be able to measure if they have
44 successfully reached that, but it was just something where they
45 have identified a problem between user groups, and they tried to
46 put in a management measure to keep them from having conflict.

47
48 Some of these, I am betting, are from a long time ago, like the

1 first amendments, the first FMP, and then, as long as they still
2 applied, the council kept them in there, and so there may be
3 some of these where -- Like digging into the amendment that it
4 came from, and I didn't want this discussion to get in the
5 weeds, necessarily, and I feel like it was just something that
6 the SSC -- I mean, have you ever seen the FMP objectives? Do
7 you guys talk about those when you talk about management
8 actions?

9
10 I mean, you have some that are your broad ones, your mandates,
11 and you have to do ACLs and everything, but, with these other
12 ones that are really specific to what the council is looking
13 for, they should be dynamic, because the fishery is dynamic, and
14 the council composition is dynamic, and you're just going to
15 have different priorities. Maybe, in that way, they should be a
16 little more fluid and not necessarily like objectives that you
17 may be used to, but just really to have a little more idea of
18 the context of what the council is working towards.

19
20 **DR. FREEMAN:** Just to add to that, we compiled, this fall, and,
21 if I remember correctly, it was presented I think at the October
22 council meeting, a review of the Reef Fish FMP objectives, and
23 it was about twenty-five pages long, and it went -- At the time,
24 we had eighteen objectives, and it gives a little bit of history
25 and context of each amendment and when those objectives were
26 added, as well as amendments that have sort of strived to meet
27 those objectives, and I was just going to say, if you give me
28 one second, I can show Charlotte where it's at in the H-drive,
29 and she can not only email to everyone, so you have a copy of
30 that, but she can also have that secondarily pulled up in a
31 window, if anyone has a specific question, but, again, just to
32 reiterate, we went from eighteen objectives down to twelve since
33 this fall, and some of that was due to certain objectives being
34 a little bit repetitive and some that the council felt that they
35 had met, as well as adding some that they felt were a little
36 more timely, but, if you give me one second, I can show that to
37 Charlotte..

38
39 **DR. ROPICKI:** Speaking about one in particular, Number 10, to
40 avoid, to the extent practicable, the derby-type fishing season,
41 the IFQ did a pretty good job on that on the commercial side,
42 but I would point out that there have been some issues with
43 late-season increases in the quota leading to a derby-type
44 fishing scenario, with decreased dockside prices, very depressed
45 dockside prices, as everyone rushes to catch the new quota
46 before the year ends, and so it might just be something to think
47 about related to that one, if the potential for late-season
48 increases in the quota is still a thing.

1
2 **CHAIRMAN POWERS:** Thank you. One other -- Well, we're on this
3 subject, and go ahead and keep on this subject line. Go ahead.

4
5 **DR. FREEMAN:** Just to add that Charlotte is going to email that
6 in just a second.

7
8 **CHAIRMAN POWERS:** All right. Then let me go ahead. One other
9 subject that has always bothered me, and it's not just for the
10 reef fish, is the one in the objectives to keep things at OY,
11 and we always end up calling OY the yield at F of 75 percent of
12 FMSY, and maybe that's what OY is, but it seems to me that there
13 needs to be much more discussion about what the real objectives
14 of the fishery are, in terms of OY. What is OY, in essence?

15
16 For a lot of reasons, like I said, we end up just putting a
17 buffer onto FMSY, but it isn't really addressing all the needs
18 and wants, and, to some extent, some of these other objectives
19 are trying to address that, but it would be nice to relate those
20 minor objectives to the overall OY.

21
22 **DR. FREEMAN:** I guess, from that context, I did lie. We do have
23 a reference of SPR, and so the old version of the objectives, if
24 you look at Number 5, which is on the screen, their definition
25 of OY did include SPR, but that was one of the objectives that
26 the council had reworded.

27
28 The SSC should have a copy of this at this point, but, again,
29 this was the old list, the full eighteen that the council first
30 saw in October, if anyone wants to reference it, but, like I
31 said, I think it would be more important to see where they're at
32 now. Does anyone have any other comments or questions about the
33 current list of Reef Fish FMP objectives, the twelve that are on
34 the screen right now?

35
36 **SSC MEMBER:** In my view, actually, I think of 10 as something of
37 a subset of Number 9. I mean, the idea of avoiding a derby is
38 because it's not very stable, and it's not stability, and so I
39 don't necessarily need to know why -- I don't know why you need
40 to separate 10 from Number 9, but the bigger question I had is,
41 and I guess more of an observation, but this order here does not
42 imply prioritization, and is that true?

43
44 **DR. FREEMAN:** That is correct. I will add, from Number 10,
45 related to the derby-style, that was one that was modified from
46 this fall. It used to be specific to the red snapper fishery,
47 and that was one that the council removed that particular
48 language and said, in theory, that should be something that is

1 avoided for all fisheries in the Gulf. Any other comments or
2 questions related to the Reef Fish FMP objectives?

3

4 **CHAIRMAN POWERS:** Go ahead.

5

6 **DR. FREEMAN:** Charlotte, if you could go to the next page, and
7 so, on the next page, we have the CMP Fishery Management Plan
8 objectives, and the last time -- This is joint with the South
9 Atlantic, and the last time this was modified was back in 1992,
10 where they added Objective 8, and so it's definitely been a
11 while since this has been revisited. I will give everyone,
12 again, a moment to look at these over, if anyone has any
13 questions on this.

14

15 **CHAIRMAN POWERS:** Walter.

16

17 **DR. KEITHLY:** Just a quick comment. It appears to me that
18 Objective Number 1 may well be in conflict with Objective 8. If
19 your overall, primary objective is to stabilize yield at MSY,
20 you may not be able to optimize social and economic benefits.
21 Thank you.

22

23 **DR. FREEMAN:** I will make a note of that. Again, any of these
24 comments, I will compile in the summary.

25

26 **CHAIRMAN POWERS:** John.

27

28 **MR. MARESKA:** Number 5 is looking at the allocation based on
29 commercial and recreational catches in the mid-1970s. I am not
30 sure what records there are of recreational catches from the
31 1970s. My understanding is MRFSS didn't start until the mid-
32 1980s, and so I'm not sure how that's going to work, and so
33 that's something to be addressed.

34

35 Then Number 7, I would suggest maybe adding cobia to that. I
36 think that's something that is coming to the forefront, as you
37 alluded to earlier, and, for cobia on the Atlantic coast, we
38 have identified that there are sub-groups there, and I think
39 that's probably coming to the forefront here. We're probably
40 going to identify some sub-groups, or sub-migratory groups, of
41 cobia in the Gulf, and so maybe that's something they may
42 consider adding as well.

43

44 **CHAIRMAN POWERS:** Thank you.

45

46 **DR. FREEMAN:** Sorry, but could you repeat that? That was
47 relating to which objective again?

48

1 **MR. MARESKA:** Number 7, I think, or cobia could be added as its
2 own objective, but I think it would be easy just to add cobia
3 onto Number 7.

4
5 **MR. RINDONE:** Kari, with Number 5, the South Atlantic has sector
6 allocations for Spanish mackerel, and so is that one still -- I
7 don't know that that one is still unaddressed.

8
9 **DR. MACLAUHLIN-BUCK:** With the CMP FMP, it's a joint FMP, and
10 they used to, both councils, update the objectives, and that was
11 just how they wrote the FMPs and the amendments and the
12 framework actions, and that FMP is from -- It was one of the
13 first FMPs, and so some of these are probably really old, even
14 if the last time they modified them was in 1992, but they're
15 very specific.

16
17 I mean, it even talks about what landings to base an allocation
18 on, and so, over time, the objectives have kind of become a
19 little broader. As it was addressed, they would remove it, and
20 they just haven't in that place. I guess that, with this
21 discussion, I didn't want it to go into a hole about where they
22 are, but just remember that some of them are really old, and
23 some of them need to be updated.

24
25 I don't even know if the councils are considering reviewing some
26 of these other FMP objectives, but just keep in mind the things
27 that the councils think about when they're making decisions
28 about that. Sometimes it's more about the social or economic
29 side than the biological side, and I don't know. Lee says we're
30 going to go down a black hole and a discussion about them, and
31 that's probably true.

32
33 **DR. FREEMAN:** For context, the council has not yet shown
34 interest in reviewing the other FMP objectives, but we just
35 thought it would be helpful for the SSC, since we were going to
36 go ahead and be presented updated Reef Fish FMP objectives, and
37 it might have been a while, or perhaps the first time for some
38 of you to be seeing all of them, which is why're presenting all
39 of these to you.

40
41 **DR. BARBIERI:** Matt, for the Coastal Migratory Pelagic Plan,
42 Number 1, Objective Number 1, could be updated to be better
43 aligned with Objective Number 6 for Reef Fish, and so it's to
44 manage Gulf stocks at OY, as defined in MSA, because, right now
45 -- You pointed out that this is really outdated, because this
46 hasn't been reviewed and revised for quite some time, but this
47 is an opportunity to revise this, which, by the way, I think,
48 Kari, that having these discussions are really important,

1 because Will has been saying this for a long time, about the
2 need for us to better work with the council in trying to bring
3 them into an OY-based management strategy, now that we are
4 getting stocks to be fully rebuilt and recovered.

5
6 Here, for the Objective 6 for the Reef Fish, it states that
7 explicitly, and I think it sets the tone for the council to work
8 with its SSC in trying to define the parameters for managing at
9 OY, and so that has been very helpful, and it kind of sets the
10 stage for that discussion to be had.

11
12 **CHAIRMAN POWERS:** Thank you. Lee.

13
14 **DR. ANDERSON:** Thanks, Kari. Discussions on objectives drive me
15 crazy, but I think objectives -- Of course they are important,
16 and obviously we should have them, and, to be really great, the
17 council, before they take a vote on anything, the staff should
18 put the objectives up and say, look, these are the objectives,
19 and we're voting today on these, and it needs to be done.

20
21 What I am saying is, at this meeting, I'm afraid -- I have seen
22 these things go on forever, and 8 doesn't match with 6, and we
23 go for -- I would suggest, if people have specific things, they
24 say it, and we write it down and send it to staff, and maybe a
25 small committee, and then come back with some suggestions, and I
26 just don't think a group like this is much good for other than
27 pointing out very large things that can be done quickly.

28
29 **CHAIRMAN POWERS:** That sounds like something a discussion leader
30 like Lee might do. We are really coming down to -- I mean,
31 we're sort of shot-gunning this, and it comes down to what Dave
32 was saying at the beginning, that some of these are just
33 basically National Standards, and some of them kind of fit into
34 those National Standards, but they are more tactical kinds of
35 things.

36
37 I suppose that -- I mean, if there were one recommendation that
38 I would probably make, it would be to revisit in general the FMP
39 objectives and try to organize them in a framework that fits in
40 with the National Standards and do something like that.

41
42 For example, the last one there, to optimize social and economic
43 benefits, that's basically a National Standard, and one could
44 argue that the process of optimization is in fact how the
45 council votes, and so it's hard to define what you mean by
46 optimization, and so, anyway.

47
48 **DR. FREEMAN:** Are there any other questions? If not, we'll move

1 to the next FMP, which is Shrimp. Okay. Again, to give context
2 on how often these are revisited, this hasn't changed since the
3 original Shrimp Fishery Management Plan. I was born in 1981,
4 and so these are at least as old as me, and so, again, I will
5 give everybody a moment to look these over, if folks would like
6 to comment or have any thoughts on these.

7

8 **CHAIRMAN POWERS:** Benny, you're the resident expert.

9

10 **DR. GALLAWAY:** I was just looking at these, and I was mentally
11 measuring the progress that we've made relative to each of
12 these, and I think the shrimp fishery has been a success story
13 in addressing the objectives of the fishery management plan. I
14 may have a bias, or maybe not.

15

16 **DR. NANCE:** I do have one, and it's kind of interesting, but we
17 did the original Shrimp Management Plan in 1981, and then we've
18 had all these amendments since then, which address every one of
19 these that are outlined here, and so is the intent here to just
20 redo the plan, or is it -- Because that's what the amendments
21 were for, was they basically amend the original fishery
22 management plan, and so is the intent here to redo the whole
23 plan with now these as the objectives?

24

25 **DR. MACLAUHLIN-BUCK:** These are the original -- I don't think
26 you've reviewed these.

27

28 **DR. FREEMAN:** Right, and so what I was saying is these have not
29 changed since the original document.

30

31 **DR. NANCE:** These are not the original out of the 1981 plan.

32

33 **DR. FREEMAN:** This is what I pulled from the 1981.

34

35 **DR. NANCE:** I don't even think habitat was in there.

36

37 **DR. FREEMAN:** I pulled it from the council website, where we
38 have the original Shrimp Fishery Management Plan.

39

40 **DR. NANCE:** Because finfish bycatch -- We did that amendment in
41 1990, and it wasn't in the original plan in 1981.

42

43 **DR. FREEMAN:** This was the list that --

44

45 **DR. NANCE:** Okay. I will have to look. That's interesting.

46

47 **DR. FREEMAN:** I am just saying the list of objectives -- These
48 were written in that original FMP.

1
2 **CHAIRMAN POWERS:** Bob.

3
4 **MR. GILL:** Thank you, Mr. Chairman. I had a comment on Number
5 6. You may want to reconsider the value and importance of that.
6 Back in the day, that was a bit issue. Nowadays, it's still
7 true in some areas, but they're pretty darned few, and I happen
8 to live in one of them, but, from a broad FMP position, that's
9 no longer the issue, but it was back in the day.

10
11 **DR. MACLAUHLIN-BUCK:** If these are the objectives that are in
12 the document, they were just very forward-thinking. With the
13 objective reviews that we did at the South Atlantic, there were
14 -- There were some where it was just like, well, that still is a
15 problem, and we're still working on it thirty-five years later,
16 but then there were some that were just really forward-thinking
17 and that the South Atlantic Council just left in there, because
18 they still applied and still were a good objective to work
19 towards.

20
21 **DR. POWERS:** Number 7 seems to conflict with many states'
22 priorities on reef construction.

23
24 **CHAIRMAN POWERS:** Well, one of the things you could do is eliminate
25 the adverse effects by not allowing them to trawl there, which
26 is effectively what is done. An artificial reef is an effective
27 control measure.

28
29 **DR. GALLAWAY:** I don't think that represents near the problem
30 today that it did, primarily due to the ability to measure
31 fishing effort patterns with electronic logbooks, and I think
32 certain areas are not in conflict at all, and other areas, where
33 there are established artificial reefs, having a small structure
34 in place is not considered the major problem that it used to be,
35 because they can successfully avoid those areas, and it doesn't
36 affect their ability to catch the animal, and so I think that's
37 one that is reconcilable between the artificial reef programs
38 and the shrimp industry, and, in fact, it's done on a day-to-day
39 basis, like the siting of an artificial reef.

40
41 Any that I'm familiar with now goes through a review process,
42 where shrimp effort patterns are looked at and evaluated, and,
43 basically, the shrimp industry has signed-off on every one that
44 I know, with very few exceptions, and so I think we've come a
45 long way, from port blockades and killings to people to acting
46 in a rational manner, and so I think those aren't necessarily at
47 conflict nowadays.

1 **DR. POWERS:** It just brings up the point that there's some
2 objectives -- It illustrates the point that there are some
3 objectives that are in conflict with the different FMPs. I
4 mean, there was one on artificial reefs in the Reef Fish
5 Management Plan, and it was vague on management potential, but
6 it obviously might cross over with this one.

7
8 **DR. FREEMAN:** Any other comments or thoughts on this one? All
9 right. Then we'll move forward to Coral is next. This one was
10 last modified in Coral Amendment 2 back in 1994, and, at that
11 point, which was really the first and only time it's been
12 modified, it added the language of live rock and live bottom
13 habitat to Objective 2. Again, I will pause there, if anyone
14 has any comments or questions that I can convey to the council.

15
16 I apologize. I had mine out of order up here, and so we'll go
17 to Spiny Lobster next. Sorry about that. Similarly, the only
18 time it was modified was in Amendment 2, when they added
19 Objective Number 6. Again, I will pause, if anyone has any
20 comments to convey.

21
22 Seeing none, we'll go ahead and go to the next set, and now
23 we're at Coral. As I mentioned, this is one where the language
24 concerning live rock and live bottom habitat was added to
25 Objective 2 back in Coral Amendment 2 in 1994, and so I will
26 pause here, if folks want to look at that and if they have any
27 comments.

28
29 **DR. GALLAWAY:** I am aware of an issue that I don't know if it
30 relates to this specifically or not, and I think it does, but
31 that is deepwater oil and gas infrastructure is colonized
32 readily by coral such as lophelia, and they are pretty
33 spectacular communities on offshore oil and gas infrastructure
34 in general, and how do the coral communities on those -- Are
35 those disposable, or are those part of the plan, or do we just
36 not address those, especially when it comes time to remove the
37 deepwater infrastructure, is what I'm thinking about, because
38 those are pretty spectacular and fairly unknown reefs, and so
39 I'm just curious. Are those in the management plan, or, since
40 they are colonizing artificial structures, are they not part of
41 the coral community?

42
43 **DR. FREEMAN:** My familiarity, unfortunately, with the coral
44 amendments is very limited, and so I don't know if anyone else
45 on the SSC or any of our staff can answer that. John, do you
46 have anything you want to add?

47
48 **DR. FROESCHKE:** Very little. I think many of the species we

1 think are not in the management unit that are those deepwater
2 corals. The ones that are, I don't know, and we could look into
3 that, but I don't know that that has ever affected the removal
4 of a platform, which is outside of our process.
5

6 **CHAIRMAN POWERS:** I think Benny is sort of warning, in a sense,
7 that, at some point, that will be -- Somebody will ask a
8 question about it, potentially, and so probably it ought to be
9 at least thought about, in terms of being one of the objectives.
10

11 **DR. FREEMAN:** Okay. I will make a note of that. Are there any
12 other comments or suggestions related to these objectives? All
13 right. Then we'll move forward to the next one, and this should
14 be the last one, and this is for red drum, and this, again, was
15 only modified once, and that was back in Red Drum Amendment 2
16 back in 1988.
17

18 It increased the percentage related to escapement of juvenile
19 red drum from 20 percent to 30 percent, and so, again, I will
20 pause here, if folks want to look that over and provide any
21 comments or suggestions.
22

23 **CHAIRMAN POWERS:** Sean.
24

25 **DR. POWERS:** The only thing that I would suggest is that
26 objective defines more specifically what it means by
27 "escapement" for the juveniles and what ages are they talking
28 about.
29

30 **DR. FREEMAN:** Okay. I have noted that. Any other suggestions
31 or comments?
32

33 **SSC MEMBER:** Given that we just did the stock assessment for red
34 drum, and they are still considered data deficient, is Number 2
35 even applicable anymore, because we're not really doing any data
36 collection.
37

38 **CHAIRMAN POWERS:** Steve.
39

40 **DR. SCYPHERS:** A couple of thoughts on Number 4. One is, since
41 you're getting the benefit of getting to look at all of these at
42 one time, I would think about trying to come up with something
43 that's relatively consistent across all of them, because
44 sometimes it is "maximize social and economic", and sometimes
45 it's "optimize".
46

47 The other part of this this one is to the nation, and I think
48 that's going to be -- It's a tough scale to think about

1 maximizing social and economic benefits, and I think about it
2 somewhere in the space between communities to more local areas.

3
4 **SSC MEMBER:** Just out of curiosity, since it was 1988 when the
5 council chose to go from 20 to 30 percent escapement, since that
6 time -- That's a long time, and that's thirty years, and has it
7 ever gone under a 30 percent escapement? Do we know that
8 offhand? I know that's a tough question to --

9
10 **DR. FREEMAN:** You mean because I'm an economist? That's okay.
11 I will defer to Ryan. He's got his hand up.

12
13 **MR. RINDONE:** Thanks.

14
15 **SSC MEMBER:** In other words, the question is, is that relevant
16 anymore?

17
18 **MR. RINDONE:** I was three years old when these were last
19 updated, and the escapement rates for the different states are
20 measured independently through the respective state waters
21 assessment of red drum, and, recently, and recently being about
22 I guess four years ago, three or four years ago, we had an SSC
23 special committee on red drum that was convened, and we
24 subsequently requested escapement rates from the states, and
25 most of the states provided their most current escapement rates,
26 which did not necessarily line up with the year in which this
27 review was held.

28
29 Some of the states' escapement rates dated back a few years, but
30 some of the states had years where their escapement rates were
31 under 20 percent, and, if my memory serves, we did not receive
32 data from Louisiana to that effect, and Texas said that their
33 escapement rates met or exceeded 30 percent, and Florida's had
34 met or exceeded. Mississippi's was just under, at the time, and
35 Alabama's was under, but it had come back up above 30 percent.
36 The folks responsible for at least knowing who is responsible
37 for curating those data are around the table, and so they can
38 weigh-in at their heart's content.

39
40 **SSC MEMBER:** Mr. Chairman, part of the reason I asked that
41 question is to bring up the point of the recommendation from me
42 personally that when you have an achievement, when one of these
43 objectives has been quantified, has been met, it ought to be
44 recorded somewhere by the council, where the average person that
45 is worried about reading these things knows there has been some
46 achievement in some of the objectives.

47
48 I don't say take it out, but, if you had very good documentation

1 on some of these things, you could say the objectives are being
2 met or have been met or whatever, and so I think it's something
3 you're missing the opportunity to do is, is not just eliminate
4 some objectives that appear to be out of date, but to highlight
5 some of the ones you know you're making progress on.

6
7 **CHAIRMAN POWERS:** Good point. In sense, it's kind of like the
8 executive summaries. You want to establish what it is that
9 you've accomplished.

10
11 **DR. FREEMAN:** Just to note that, to a degree, that's what we
12 worked on when we did the review of the Reef Fish FMP
13 objectives, but, again, it had been quite some time since that
14 had been documented also, and I recognize what you're saying, to
15 that point.

16
17 **DR. CURTIS:** In 1988, I was one year removed from my deployment
18 as a U.S. infantry soldier, and so I'm not quite that young.
19 Having served on the Special Red Drum for a dozen years or so, I
20 can tell you that each state measures it very differently, and
21 so it's tough to say that 30 percent really means the same from
22 state to state.

23
24 **CHAIRMAN POWERS:** Okay. Jason.

25
26 **MR. ADRIANCE:** Thank you, Mr. Chairman. I just wanted to -- I
27 think we did provide ours. However, it was last updated in
28 2004, and I think that rate was around 60 percent at the time,
29 but it has not been updated since.

30
31 **CHAIRMAN POWERS:** Thank you. Are there any other comments on
32 any of these? Then I would encourage people to take a look at
33 these and provide -- If you have any other input, provide that
34 to council staff. I would also encourage anyone, when you go
35 through the FMP amendment process, that we should probably
36 revisit some of these things and make them more compatible with
37 what's going on now. With that, thank you very much.

38
39 **DR. FREEMAN:** Thank you.

40
41 **CHAIRMAN POWERS:** This would be a convenient time for a break
42 for twenty minutes.

43
44 (Whereupon, a brief recess was taken.)

45
46 **CHAIRMAN POWERS:** Welcome back, everybody. We are on what was
47 Item Agenda Item VII, and is now Agenda Item VIII, and it's the
48 fisheries allocation. Thank you, Ava.

1
2 **REVIEW OF GULF SECTOR ALLOCATIONS**
3

4 **DR. LASSETER:** Good afternoon, everybody. This should actually
5 be quite brief. According to your scope of work, this is a
6 review of Gulf sector allocations, and, really, this is for
7 informational purposes, and we're not looking for a motion or
8 anything out of you. For discussion, if there is something you
9 want to communicate with the council, you're free to do so.

10
11 The document, you can see, is up, and this is really just a
12 summary of the existing allocations for the Gulf of Mexico, and
13 there are several different types of allocations. We have
14 allocations between the sectors, commercial and recreational,
15 allocations within the recreational sector, between the private
16 angling and federal for-hire components, and then across-council
17 allocations, which are called jurisdictional apportionments
18 between us and the South Atlantic, and then the Gulf commercial
19 zones, and so, within the commercial sector, and then, finally,
20 a pending allocation that we're expecting that the council might
21 be taking final action on in just a couple of weeks between the
22 five Gulf states.

23
24 These are each broken out in the document, and you can see this
25 first section, Number 1 in Table 1, provides all of the sector
26 allocations that are currently in place in the Gulf of Mexico,
27 and then, in the next couple of pages, each one of these, some
28 additional information is provided, supplemental information,
29 including the method or the historical time series on which it
30 was based, and it also specifies which type of allocation, and
31 so some of these are actually established, were established
32 through an amendment, and are like formal allocations, and some
33 were termed interim allocations that were included in the text,
34 the body of a document, and that the council expressed interest
35 that they might revisit them at a later time.

36
37 Then some others are considered de facto allocations, and these
38 are the ones specific to the commercial IFQ program, where a
39 quota was set for the commercial sector, and a total ACL was set
40 and, therefore, it's de facto that the remaining balance between
41 the two would be the recreational.

42
43 You can take a look at those first couple of pages there, and
44 the next group would be allocations within a sector, within the
45 recreational sector, and this is the top of page 3, and there is
46 an allocation between the federal for-hire and private angling
47 component, and there is currently a sunset on this allocation.
48

1 If this next amendment, 50, goes forward with the current
2 preferred alternatives at this next meeting, that would become
3 essentially permanent until the council takes action to change
4 it at a later date.

5
6 The next section is allocations between councils, between the
7 Gulf and South Atlantic Councils, and we have three stocks there
8 of black grouper, yellowtail snapper, and mutton snapper that
9 have apportionments between the council jurisdictions.

10
11 The next section, Section 4, this is specific to king mackerel,
12 and there are commercial zones that are also specific for gear
13 types.

14
15 Then the final one is at the top of page 4, and this is the
16 proposed one that the council is expected to take final action
17 on in just a couple of weeks at the April council meeting,
18 through Reef Fish Amendment 50, and this is state management,
19 and this would divide -- Based on the current preferred
20 alternatives, it would divide the private angling component ACL,
21 which is part of the recreational red snapper ACL, and it would
22 divide just the private component ACL amongst the five Gulf
23 states.

24
25 This would be taking the 57.7 percent of the red snapper
26 recreational ACL and divide just that 57.7 percent as you see
27 here amongst the five states. That is a summary document for
28 your information, and I will pause there to see if there's any
29 questions.

30
31 **CHAIRMAN POWERS:** Lee.

32
33 **DR. ANDERSON:** Why are we doing this? I think I know the answer
34 to this, but why, out of the blue, are we re-looking at
35 allocations?

36
37 **DR. LASSETER:** To be perfectly honest, I am subbing in for Dr.
38 Diagne today, who put this together, and so I'm going to need
39 some help as to what the impetus of this was, and I was asked to
40 present this. Can somebody help me with some broader --

41
42 **DR. FROESCHKE:** The SSC asked for this information.

43
44 **DR. LASSETER:** You actually asked for this information.

45
46 **DR. ANDERSON:** Isn't it more -- I mean, we're going to have to
47 be working on the allocation review program that the council has
48 to come out with, right?

1
2 **DR. FROESCHKE:** Yes, and I think as part of the background
3 information, we --
4
5 **DR. ANDERSON:** That was part of the answer I was assuming that I
6 would get. It's interesting that we got this, and it's nice to
7 review that, but I always say why are they telling us that, and
8 I was hypothesizing that it is the fact that the council is
9 going to have to come up with an allocation program and an
10 ability to change allocations in the future, and we talked about
11 that a couple of meetings ago.
12
13 **CHAIRMAN POWERS:** As I recall, and I guess it was the red
14 snapper, where they revisited allocations, and there was a set
15 of discussions about the things you should consider in order to
16 do that, and so -- I think some of that discussion wasn't just
17 for this region alone, but it was sort of a national viewpoint
18 about how one approaches allocation sorts of problems.
19
20 From my own standpoint, I think it's good to have a document
21 where they're all listed, and I appreciate the information, but,
22 obviously, we're not suggesting an alternative or anything.
23 Kari.
24
25 **DR. MACLAUHLIN-BUCK:** John or Ava, out of the October meeting,
26 Assane went over the allocation triggers, and then where is
27 that, as far as the Gulf Council's decisions on the triggers for
28 allocation review?
29
30 **DR. LASSETER:** At the January meeting, they did review a letter,
31 again, and they provided recommendations on it, and I believe
32 Dr. Diagne is revising the letter, and it's going to be
33 presented again at the April meeting.
34
35 **DR. MACLAUHLIN-BUCK:** Then the council reviews that, and they
36 approve it, and then it's provided to NMFS?
37
38 **DR. LASSETER:** Yes.
39
40 **DR. MACLAUHLIN-BUCK:** Okay.
41
42 **CHAIRMAN POWERS:** One of the ways to think about these things,
43 from the SSC standpoint, is are there things that we would
44 suggest that would trigger the need to actually revisit some of
45 these things, either socioeconomic changes or biological
46 changes, that would trigger why somebody might want to look at
47 changing the allocations, and that's one way to -- Obviously, I
48 don't think we're at a point to provide that sort of information

1 very detailed right now, but, again, I would view this document
2 in that context. Shannon.

3
4 **DR. CASS-CALAY:** One thing that Joe was alluding to about
5 allocations, which I just want to state for the record, is that
6 each of these states might have essentially a selectivity
7 pattern, a size composition of fish, that they routinely see,
8 and, anytime you change allocations, in the teeth of a
9 selectivity pattern, it changes the catch that we would actually
10 recommend, because it changes MSY.

11
12 Just to let you know that you can't just go about changing
13 reallocations without rerunning, essentially, the projections to
14 determine what the appropriate catch should be, which is why we
15 have developed a decision tool that you've seen before, which
16 could be used to do that quite easily, but that's what Joe was
17 referring to, is these allocations -- Anytime you change them,
18 it changes the catch recommendations as well.

19
20 **CHAIRMAN POWERS:** Also, these allocations and the percentages, I
21 guess maybe all of them, are in pounds, and, of course, the
22 effect of those changes will be different for recreational and
23 commercial, selectivity, essentially.

24
25 The recreational sector, quite often, is always more concerned
26 with numbers, understandably, and, at the assessment level, you
27 try to have a good way of translating between the two, and,
28 obviously, at some point, you have to make that sort of
29 transformation between pounds and numbers for all the sectors,
30 but the interests of individual sectors are quite different,
31 sometimes.

32
33 **DR. CASS-CALAY:** Just one more quick caveat, just so I don't
34 cause any misunderstanding. The current stock assessment model
35 is only regional, and so it's eastern Gulf and western Gulf, and
36 it's broken out into a number of fleets, and so we couldn't
37 actually do state-specific changes, but we could look at
38 changing the allocation in the west, versus changing the
39 allocation in the east, by the recreational and commercial
40 components.

41
42 **CHAIRMAN POWERS:** Thank you. Lee.

43
44 **DR. ANDERSON:** Dare I ask the question, but is the SSC ever
45 going to be asked to comment on the council reallocation
46 program?

47
48 **DR. LASSETER:** I can say that there is an amendment that is

1 under development, and it has been given a number, and the
2 council is reviewing it, and I'm sure, as the process goes
3 forward -- If I could speak for Dr. Freeman, who is actually
4 lead on the amendment, as studies are potentially provided in
5 support of the direction the council is going, I'm sure that
6 those will be brought before you.

7

8 **CHAIRMAN POWERS:** Thank you. Luiz.

9

10 **DR. BARBIERI:** Just to that point, I mean, I think it's
11 informative for us to get this overview of the different
12 allocation processes that the council is considering, but for us
13 to provide a recommendation, kind of like in a vacuum, it
14 becomes difficult, and so being aware of this general framework
15 that's in place, and then, as we see different amendments that
16 propose changes in allocation, and we can look at the technical
17 issues there, the time series of data that is being used to look
18 at all that allocation, and all of the other criteria, and it
19 makes it easier for us to comment and make more specific
20 recommendations, I think.

21

22 **CHAIRMAN POWERS:** Thank you. Okay. Thanks. Where are we now?
23 Ryan and carryovers, Agenda Item IX, and there is several
24 documents that were in the document file.

25

26 **REVIEW OF GENERIC ACL CARRYOVER AMENDMENT**

27

28 **MR. RINDONE:** Yes, that's true, and if we can just bring up the
29 amendment, because that's what I am going to focus on with you
30 guys. If you guys remember, you reviewed -- The council has
31 been talking about trying to figure out a way to carry over
32 uncaught quota from the previous fishing year to the following
33 fishing year, and you guys reviewed simulations on doing so for
34 red snapper and kingfish done by the Southeast Fisheries Science
35 Center.

36

37 Exceptionally briefly, these showed that, assuming that things
38 like selectivity and discards and other management aspects of
39 the fishery and everything else remained unchanged, that you
40 could carry over, pound for pound, whatever was not caught in
41 the previous year to the following fishing year without any
42 long-term detrimental effects on the stock.

43

44 The way that we have designed the carryover provision for the
45 Gulf Council is kind of like a bolt-on modification to the ABC
46 control rule, and so, when you guys get a stock assessment, you
47 evaluate the results and determine if it's best science, and
48 then you apply the ABC control rule. The carryover provision is

1 something that would be examined for the candidate species each
2 year after that has already happened, and so, in essence, the
3 carryover provision itself does not interfere with the setting
4 of the ABC control rule, or the determination of the ABC using
5 the control rule.

6
7 There are some overarching rules that we have put in place based
8 on the National Standard guidance that came out in October of
9 2016, which are that carryover has to be applied to the smallest
10 divisible managed unit of a particular species, and so, like for
11 gray snapper, we don't have sector ACLs, and it's just a stock
12 ACL, and, because that particular pie is not divided, we have
13 excluded any species that don't have at least sector allocations
14 from consideration in this amendment.

15
16 On the other end of the spectrum, something like king mackerel
17 has recreational and commercial sector allocations, and then,
18 within the commercial sector, there are four quotas that are
19 parsed out to the western zone handline, northern zone handline,
20 southern zone handline, and southern zone gillnet, and so
21 carryover would be applied to the smallest unit that it could,
22 and the reason for that has to do with selectivity of the
23 different fleets for whatever it is that they're fishing for.

24
25 Red snapper is a perfect example, where recreational anglers
26 tend to prize larger fish, whereas commercial anglers don't
27 necessarily target the largest red snapper that they can get,
28 and so there are average size landed differences between those
29 fleets, and so, if you were to carryover 100,000 pounds of red
30 snapper, that means a completely different number of fish to the
31 commercial folks than it does the recreational folks. For the
32 sake of making sure it's apples-to-apples, that's why we're
33 doing it that way.

34
35 The council's current preferred alternative in Action 1 is
36 Alternative 2, which would establish that carryover provision,
37 and it would exclude species that are currently overfished,
38 which is Option 2b, and also species that did not have their
39 fishing year closed as a result of the ACL or quota being met or
40 projected to be met, and a good example of that is recreational
41 kingfish, which hasn't landed its ACL in twenty years, and so
42 the season is open year-round with a three-fish bag limit. If
43 that's not being impeded, then there's no reason to carry over
44 those fish that aren't going to be caught.

45
46 If we scroll down to the table, this shows you what's included
47 or excluded, based on the preferred options, and so, based on
48 what the council currently prefers, greater amberjack would be

1 excluded, because it's overfished, and the recreational side of
2 the kingfish would be excluded under Preferred Option 2c,
3 because its season has not been closed because the ACL was
4 projected to be met.

5
6 **DR. POWERS:** Was there any talk of excluding stocks that were
7 experiencing overfishing?

8
9 **MR. RINDONE:** There was. Ultimately, we kept it to whether the
10 stock was in a rebuilding plan and whether it was overfished,
11 since those were the things that tended to be of greatest
12 concern, as far as the council's point of view. We didn't
13 proceed though with considering stocks that were experiencing
14 overfishing.

15
16 **CHAIRMAN POWERS:** John.

17
18 **MR. MARESKA:** Was there any discussion on fishing effort? I
19 mean, I look at red grouper and gag up there as being available
20 under Option 2c, and that just gives me a lot of concern,
21 because it sounds like the effort has remained constant, but
22 catch has gone down, and I just see those stocks as highly
23 questionable, and they may be in an overfishing or overfished
24 status right now, and to allow a carryover just seems more
25 detrimental.

26
27 **MR. RINDONE:** Considering fishing effort explicitly like that
28 wasn't something that we looked at. In those particular cases
29 for red grouper, we have a stock assessment that's ongoing right
30 now, and it should be available to you guys for your review for
31 your July meeting, and gag will be updated in 2020, and you guys
32 will be able to look at that in 2021.

33
34 For those species, if there is a concern, then we should have
35 something like an interim analysis or some other measure of
36 trying to get at what the stock status is, and, if it turns out
37 that that particular species is overfished, then, under the
38 council's current preferred alternatives, it would be excluded
39 from future carryover from the point of that determination,
40 until such a time as it's no longer declared overfished, and so
41 it would behoove the council and this body to be proactive about
42 requesting things like the interim analyses, if it's presumed
43 that there could be an issue with the stock, but, no, we have
44 not tried to tie-in a certain level of CPUE as an indicator of
45 whether carryover should or should not occur. Dave.

46
47 **DR. CHAGARIS:** This Table 2.1.1, does it include the constraints
48 in the table that is two pages previous to that, that basically

1 says, if the combined landings exceed the ACL, then there will
2 be no carryover?

3
4 **MR. RINDONE:** Yes, and that's another overarching rule, and
5 that's, again, to prevent overfishing.

6
7 **DR. CHAGARIS:** Okay, but, in Table 2.1.1, it has red snapper --
8 If its total ACL was exceeded, it said it would still be
9 eligible under those other options.

10
11 **MR. RINDONE:** If the total ACL for red snapper is not exceeded,
12 then it would be eligible for a carryover, contingent upon what
13 is happening in Alternative 2. The rules that are in this box,
14 these are not rules that get to be determined whether or not
15 they are going to be followed. These are like hard-and-fast
16 things that are based on the National Standard Guidelines as
17 part of the implementation of this. If the stock ACL is
18 exceeded, then there is just no carryover for that stock, and
19 that's just -- It doesn't matter what else would exclude it
20 later.

21
22 **DR. CHAGARIS:** That was just a point of clarification, because
23 Table 2.1.1 below it would suggest otherwise.

24
25 **SSC MEMBER:** One thing you might want to do is, in Table 1.1.1,
26 red snapper is over, and so you might want to put a negative 16,
27 because you look at it real quick and you think it hasn't met
28 its allocation yet.

29
30 **MR. RINDONE:** We did have negative and positive numbers in there
31 originally, and we can look at adding those back in.

32
33 **CHAIRMAN POWERS:** Shannon.

34
35 **DR. CASS-CALAY:** The OFL, by our conventions, is calculated
36 using the projection of FMSY or its proxy, and so that is the
37 overfishing limit, and that's the way it's consistent with the
38 national interpretation, but, if your stock is actually in a
39 rebuilding plan, if you add the underage to the ABC, then you
40 could be in a situation where you are delaying the rebuilding
41 plan, even though you're not technically overfishing. Do you
42 see what I mean?

43
44 You're above the biological recommendation, which is the
45 rebuilding plan, but you are below OFL, and so I think that's
46 still probably allowable, but I just wanted to point it out,
47 that it will delay the rebuilding plan if that's done.

48

1 **MR. GREGORY:** I had a question.
2
3 **CHAIRMAN POWERS:** Go ahead, Doug, but let me say this first. I
4 am interpreting, in the case of something under a rebuilding
5 plan, that's got one of the pink Xs here, and it would not be
6 subject to the carryover.
7
8 **MR. RINDONE:** That's correct, but that's not currently one of
9 the council's preferred alternatives.
10
11 **CHAIRMAN POWERS:** Okay, and so I think what we're saying is be
12 aware of that.
13
14 **MR. RINDONE:** Yes, and that point has been illustrated to the
15 council in previous discussions. Any other questions, as far as
16 inclusion or exclusion?
17
18 **MR. GREGORY:** I have a question, and it's something related to
19 what Shannon was saying. When we calculate ABCs for a
20 rebuilding plan, we build in a buffer between the F at rebuild
21 and the ABC we recommend, and my understanding is the Act
22 explicitly says we do that for OFL, but it doesn't explicitly
23 say that we need to do that for a rebuilding plan, and so, if
24 we're doing that for a rebuilding plan, and it's my
25 understanding that, because we've been doing that with red
26 snapper, the 2017 overrun on red snapper was not that
27 detrimental to the overall rebuilding plan, because we had been
28 rebuilding faster than our trajectory, and we're rebuilding
29 faster than our trajectory because we're setting ABCs less than
30 F at rebuild.
31
32 If we're doing that, doesn't that leave room for some carryover,
33 even though you're in a rebuilding plan, and so why would a
34 rebuilding plan be any different than when something is not in a
35 rebuilding plan?
36
37 **DR. CASS-CALAY:** You are correct, Doug, that there is a buffer
38 that we apply to ABC for a stock that's overfished, and so there
39 is that extra buffer, and so, if you only had one underage, and
40 so you want to apply a carryover, and that happens once, and,
41 other than that, you have good controls in the fishery and
42 you're not have any overages, then you can always do this, and
43 you will be on track with the rebuilding plan, because the
44 animals that you have foregone in one year have had a chance to
45 grow in the next year, and applying that same catch, in weight,
46 is actually -- It will not delay your rebuilding plan.
47
48 The problem that I foresee happening is in stocks that are less

1 well controlled that may sometimes experience an underage, but
2 other times are well over, and that might start to concern me
3 more, and we do have a number of stocks, and greater amberjack
4 is one where we're over very frequently, and so having an
5 underage might not be a great idea to allow that one to be
6 taken, but I don't think that's my prerogative, and I'm just
7 noting.

8
9 So I know that was a lot to say, in not any particular order,
10 but, yes, Doug, you are correct that one underage in a well-
11 managed stock, we won't delay the rebuilding plan, and that's
12 right, because we have buffers, and because leaving fish in the
13 water is a good thing for the stock, and those fish can be taken
14 the next year, because they will be larger animals, older
15 animals with more reproductive potential.

16
17 **MR. GREGORY:** Thank you.

18
19 **MR. RINDONE:** All right. We'll go ahead and cruise on. I will
20 keep going to Action 2. Action 2 establishes a provision for
21 management uncertainty, and so the speed with which we can close
22 a fishery if the ACL is projected to be met has a lot to do with
23 whether the final landings actually exceed the ACL or not, and,
24 for a lot of our stocks, the ACL is equal to the ABC, and there
25 is not a terrible amount of buffer, for some of these, between
26 the ABC and the OFL, and if, in a carryover year, it so happened
27 that -- Because the ABC cannot exceed the OFL, if the carryover
28 resulted in an ABC equal to the OFL, and the ACL is equal to the
29 ABC, and we catch the ACL, then now we've also caught the
30 overfishing limit. If we exceed it by even one pound, then the
31 assumption by the Department of Commerce is that overfishing has
32 occurred, and the council will have to do something immediately
33 to end overfishing.

34
35 In an effort to not let carryover get too carried away, we have
36 Preferred Alternative 2 here, which would adjust the amount of
37 the ACL to be carried over to the following fishing year by
38 limiting how much the difference between the ABC and the OFL can
39 be reduced, and the council has preferred not to reduce that
40 buffer between the ABC and the OFL by more than 50 percent, and
41 so, for example, red snapper has a buffer between the ABC and
42 the OFL of 2.58 percent, which is approximately 400,000 pounds,
43 and so that means, regardless of how much may be left over in a
44 carryover eligible year, not more than 200,000 pounds total,
45 regardless of to where it goes, could be carried over to the
46 following fishing year, and all of that would be done
47 proportionately based on the percentages that were left behind.
48 Does everybody understand the purpose behind this? Okay.

1
2 We will go to Action 3. Action 3 adjusts the framework
3 procedures for several listed FMPs. Preferred Alternative 2
4 automates the carryover process such that the ABC, ACL, ACT, and
5 quota for a species, sub-species, and species groups, et cetera,
6 can be updated through the closed framework procedure, as
7 determined by the ABC control rule and under the carryover
8 provision, and so this lets NMFS use the preliminary landings to
9 be able to determine whether a species that is eligible for a
10 carryover gets one and to where those pounds will go.

11
12 Preferred Alternative 3 applies to reef fish, corals, and CMP
13 and spiny lobster, and it allows the specification of the ABC
14 once you guys deem an assessment best available science and you
15 make an ABC recommendation, and it allows that ABC to be
16 codified through an abbreviated documentation process. Right
17 now, when we update -- When the council does a framework action
18 to update the ACLs after a stock assessment, we specify in there
19 what ABCs the SSC recommended, and so this allows us not to wait
20 for that whole process to happen and that document to be
21 finalized. The specification of the ABC can be done more
22 quickly.

23
24 Then Preferred Alternative 4 allows the implementation of in-
25 season and post-season accountability measures for coral reefs
26 and spiny lobster to be done through the framework process, and
27 it also allows for a consistent terminology and format for all
28 the framework amendments across all the FMPs, and so this is an
29 administrative efficiency gain, in a lot of ways.

30
31 The reason why you guys are seeing this is to make sure that you
32 understand what this provision actually does. Again, it doesn't
33 change the way the current ABC control rule works. It's
34 something that happens after that rule has already been used,
35 but what will be requested of you guys is to affirm that the way
36 in which the provision works is appropriate for the species that
37 are eligible, and when a species becomes eligible -- If and when
38 a species becomes eligible in the future that is not currently
39 included in this amendment, you guys would then be requested,
40 again, to say carryover is appropriate for this species as well,
41 and, if a species falls out of eligibility, based on the rules,
42 then, obviously, we'll let you know. That's what we have at
43 this point.

44
45 **DR. PATTERSON:** Maybe I missed it, but when Methot was here, and
46 we were first having the preliminary conversations about the
47 carryover and whether this could potentially do harm to the
48 stock or cause delays, and I may be misremembering this, but I

1 thought we talked about one minus M times the foregone yield the
2 year before as what would actually be the most appropriate
3 carryover, but I didn't see anything in this that captured that,
4 and has that been discussed in any of your stuff?
5

6 **MR. RINDONE:** One minus M was discussed in previous drafts, and,
7 ultimately, it was -- It was actually from info from the Science
8 Center that we ultimately excluded that, because the notion, and
9 Shannon touched on this some, is that these fish weren't killed
10 in the previous year, and so they've had some opportunity to
11 grow and get larger and perhaps reproduce, and you are carrying
12 over not the number of fish to be harvested, but the pounds that
13 could have been harvested in the previous year, and so the
14 effect of natural mortality, though -- When we think about that,
15 we think of that as a reasonable thing to consider, it wasn't
16 necessary for carryover to not have a long-term negative effect
17 on the stock, and I may have summarized that too generally.
18

19 **DR. CASS-CALAY:** That is correct, and the analysis that we did
20 only examined the effect of underages that were then applied in
21 subsequent years, and so the simulations we did -- There were
22 never overages that occurred, and so, if you have overages, you
23 do have to account for those too somehow, and then, of course,
24 the deduction should be larger than the overage was, because you
25 have taken the fish in a previous year, and so, for this same
26 logic, then you should apply a larger reduction when you have an
27 overage.
28

29 **CHAIRMAN POWERS:** That is not addressed in this amendment?
30

31 **MR. RINDONE:** No, and this amendment only addresses carrying
32 over underages to the following fishing year, and it does not
33 address an adjustment for an overage and how that should be paid
34 back in the following fishing year, and so, right now, most of
35 our payback provisions anyway -- I think all of our payback
36 provisions are one-to-one, and so, for whatever is exceeded in
37 the previous fishing year, in the payback fishing year, that
38 same number of pounds is deducted from the ACL or the ACT,
39 however the season is set.
40

41 **CHAIRMAN POWERS:** One could argue that the effect of an overage
42 is accounted for when you do the assessment. However there is
43 lags for that, one, and then, secondly, it's allocated to all
44 the sectors, and so that is something to think about.
45

46 **DR. BARBIERI:** Ryan, a more general question, just because I
47 have never looked into this, but do other councils have
48 processes in place for this carryover as well that we could

1 perhaps review as we look at some of these things here?

2
3 **MR. RINDONE:** It's been a while since I have looked at it, but
4 there are some carryover provisions for some particular species
5 in a couple of parts of the country and a couple other parts of
6 the world, but, by and large, the National Marine Fisheries
7 Service doesn't have like a cohesive method for how this should
8 be implemented nation-wide, and there's actually a working group
9 that's been going on as this document has been under development
10 that's been trying to develop guidelines for how to do a
11 carryover, and it's actually based largely on this document, and
12 so I guess it's one of those, yay, we're on the leading edge,
13 but we don't know if we're going to slice or get cut in the
14 process.

15
16 I will say that a considerable amount of time has been put into
17 this to try to make sure that -- Like establishing those four
18 safeguards that are in that box right before you see everything
19 in Action 1 and then at least considering the things that we
20 have considered in the options for Alternative 2 in Action 1 and
21 then, of course, trying to account for our management
22 uncertainty and knowing that sometimes we hit on the nail on the
23 head with being able to estimate season length and making sure
24 that things are closed down on time, and a good example was the
25 for-hire red snapper component last year was just at about 100
26 percent of its ACT, which was pretty good, and then other things
27 -- We may try to close a particular fishery, like let's say -- I
28 will pick on the western zone kingfish handline component.

29
30 There may be boats offshore, boats that haven't offloaded yet,
31 and it takes a couple of days for the rest of the dealer reports
32 to come in once those fish have been landed, and so it may be
33 off by a few percent here or there, and so this is allowing the
34 couch change that's left to be rolled over to the following
35 fishing year, since it's usually not an awful lot of a
36 percentage that is foregone when a season appears to have been
37 closed too soon, but it does afford the opportunity for
38 fishermen to get a little bit of that back in the following
39 fishing year, and so, specifically, the fishermen that did not
40 catch it, but had their season closed prematurely.

41
42 **SSC MEMBER:** In that situation, I think the carryover is
43 definitely warranted. The season was closed over some error in
44 the projection, but if you take, for example, red grouper, who
45 have not met their ACL, and, if some of you were at the data
46 workshop, the fishermen are really concerned.

47
48 I mean, they were actually advocating for a lower ACL, and the

1 reason they are perceiving -- Their perception is that the stock
2 is really in bad condition, and so how do we, in this carryover
3 framework, account for situations like that, because I don't see
4 -- As the rules are set up now, red grouper would still be
5 allowed carryover.

6
7 **MR. RINDONE:** I don't remember which year it was, but I know in
8 that like 2016 or 2017, I believe it was, the red grouper season
9 was closed in November sometime, and I'm looking back at Sue for
10 inspiration, but it did -- In that particular fishing year, it
11 did close early because the ACL was projected to be met, and so,
12 in that particular case, if the ACL was in fact not met, then
13 the recreational sector for red grouper would be eligible for a
14 carryover.

15
16 The council has excluded all IFQ components of managed species,
17 and they said they will talk about that later, at a different
18 time, but, last year, the recreational sector wasn't closed, and
19 its season was open for the duration, and so that means that, in
20 this year, red grouper would not be eligible for a carryover
21 under Option 2c in Action 1, because its season was not closed
22 because the ACL was projected to be met, and so the season
23 stayed open the entire time, and so there was no carryover, and
24 so that projection is afforded there.

25
26 I know that that table shows that its green, and it's green
27 because it's eligible in the event that its ACL is closed
28 prematurely. If its ACL is not closed prematurely -- Sorry. If
29 its season isn't closed prematurely because the ACL was
30 projected to be met, then there's no carryover. I admit that
31 parts of this are clear as mud, and I assure you that we have
32 tried desperately to uncomplicate this, but this is where we are
33 at presently.

34
35 I guess, essentially, what we're looking for is verification, or
36 not, from the SSC that, based on the rules and the way that this
37 is presently set up, for the species to which it presently
38 applies, is the carryover provision appropriate? Is it
39 verifying that it's not going to cause undue harm to the stock?

40
41 **CHAIRMAN POWERS:** Remind me again, but this is just for those
42 species, correct?

43
44 **MR. RINDONE:** Yes, and so, presently, based on the rules that
45 are established in the box, and then based on the exclusions
46 established in Action 1, the only managed components that are
47 presently eligible for a carryover are the recreational
48 components for red snapper, which is the private and the for-

1 hire components, the recreational side of red grouper, the
2 recreational side of gag, the commercial zones for kingfish,
3 which is the western, northern, and southern handline zones and
4 the southern gillnet, and then recreational and commercial gray
5 triggerfish. Those are the only ones that are presently in the
6 running, and so greater amberjack is excluded, because it's
7 overfished.

8
9 **CHAIRMAN POWERS:** The scope of work, basically, the action that
10 was asked for was discussion and recommendations. I would
11 entertain any discussion and recommendations. Obviously, the
12 council didn't want to address this in this amendment, but I
13 would still -- It's a little bit concerning to me what we talked
14 about before, is that dealing with underages and not dealing
15 with overages. You need to have some sort of balance between
16 the two over the long run anyway, but, again, that's just mostly
17 my opinion, and so I will open it for discussion. Luiz.

18
19 **DR. BARBIERI:** I didn't see here, Ryan, and I guess I haven't
20 reviewed this in enough detail, for how the management
21 uncertainty is a more explicit way for how management
22 uncertainty is integrated into this.

23
24 Basically, a lot of this is really directed at species that have
25 recreational harvest, for which we have the highest amount of
26 management uncertainty and high PSEs, and I am looking at this
27 as an SSC member and trying to measure the error rates that are
28 going to be associated with this estimate of landings, plus dead
29 discards, as total removals from the stock and how that gets
30 really accounted for in the -- When do we know that we have a
31 number that is reliable enough for us to know here's how much
32 was actually removed from the stock?

33
34 **MR. RINDONE:** We are largely going to be relying on preliminary
35 landings as they come into the Southeast Regional Office to be
36 able to make the determination ahead of the season opening for
37 the particular managed unit, as far as whether it's eligible for
38 a carryover and how much carryover a particular sub-section of a
39 species, fishery -- What it's going to get.

40
41 As far as the management uncertainty is concerned, we account
42 for scientific uncertainty in two places, inherent within the
43 assessment and through the ABC control rule, and then the
44 ACL/ACT control rule implemented by the council for setting
45 those two catch limits accounts for management uncertainty, and
46 it is influenced by things like how often there has been an
47 overage in the previous few fishing years, and so that's a large
48 driver, as well as other factors, but whether or not there's

1 been an overage in the past is a big influencer of whether there
2 is going to be a greater or a smaller buffer between the ABC and
3 the ACL or the ACL and the ACT.

4
5 In some cases, if there hasn't been an overage in a considerable
6 amount of time, like we had previously believed with gray
7 snapper, then the ACL is equal to the ABC, and, for many of our
8 species, that is the case. For the ones that we manage more
9 intensively and make changes to more frequently, we see there
10 being buffers between the ABC and the ACL, and sometimes
11 implementation of an ACT as a management target.

12
13 The ACL/ACT control rule is a host to the management
14 uncertainty, and Action 2 is an additional consideration of
15 management uncertainty, knowing that the scientific uncertainty
16 has already been accounted for on a per-species basis, as has
17 the management uncertainty through the ACL/ACT control rule,
18 and, though Action 2 is a broad brush stroke over the entire
19 carryover provision, each species has had its ABC and its ACL
20 individually considered already. Even though Action 2 is kind
21 of an umbrella, we have still been very species specific in
22 consideration of our catch limits. I don't know if I've
23 answered your question.

24
25 **DR. BARBIERI:** Well, not directly. I can understand what you're
26 talking about, but I am thinking about just a -- You are
27 measuring something with a ruler, and, that ruler, you know it
28 has a problem, or you're weighing something with a scale that
29 there is an error, and so it's plus or minus whatever.

30
31 When do you know exactly how much you landed, so that you know
32 that you do have an overage or an underage, because you are
33 measuring with an instrument that -- We have a PSE from the
34 recreational MRIP that tells us 60 percent or 70 percent, and
35 I'm looking at things like greater amberjack, for which we have
36 really high PSE values.

37
38 I think this is something that the council should think about
39 and is it desirable to have a carryover, if we feel that there
40 is fish that are leftover that were predicted to be eligible for
41 removal and that were not, but I think it would be good for the
42 council to know that it may take us a couple of years to
43 actually know how much was removed, and then, even then, we have
44 measured those removals with an instrument that has an error
45 associated with it. If we don't account for the error, how do
46 you know how much you --

47
48 **MR. RINDONE:** Through the quality control and quality assurance

1 process for the data validation for the landings, the landings
2 are tweaked over time, and even back to 2014, when we've been
3 updating landings tables for amendments, sometimes it changes by
4 a couple hundred pounds, or a few hundred pounds, and so I
5 recognize that your concern, in that respect, of when do you
6 finally know.

7
8 Regrettably, in this particular instance, what we're depending
9 on by the preliminary landings, and acknowledging that, though
10 there may be some fluctuation in what those final numbers are,
11 they typically don't deviate much from -- Like, when we say we
12 have the 2018 preliminary landings for the -- We know with
13 decent certainty that these are about what the landings are, and
14 we don't expect a change of 20 percent or something like that,
15 something wild.

16
17 When NMFS receives those preliminary landings, and all the MRIP
18 waves are in, and they have been able to determine whether a
19 carryover is appropriate for a particular species, then they can
20 run the calculations and apportion the pounds where they're
21 supposed to go.

22
23 There is some risk in knowing that we're using preliminary
24 landings, but we've also already established that we've
25 accounted for both scientific and management uncertainty
26 already, and then we're also limiting how much is carried over
27 in Action 2, to make sure that we don't result -- To try to
28 prevent the likelihood of us reaching or exceeding the OFL, by
29 constraining how much the ABC can be increased in a carryover
30 year.

31
32 **DR. BARBIERI:** How do you account for management -- I just
33 haven't seen it, and maybe I am missing something, but how did
34 you account for management uncertainty?

35
36 **MR. RINDONE:** I can try to dig out our ACL control rule. Hold
37 on. I can send that around to everybody.

38
39 **DR. BARBIERI:** We don't have to do this now, Ryan, and we can do
40 this -- I was just like trying to think about -- I mean, we
41 account here, in our ABC control rule, about scientific
42 uncertainty, and so we have metrics that we know are not
43 deterministic, and so there is some error around those
44 estimates.

45
46 **CHAIRMAN POWERS:** What you're talking about, in terms of
47 management uncertainty, is you set a limit, and it's all been
48 agreed on, and was it reached or was it overreached.

1
2 **DR. BARBIERI:** Right, and so, for example, there is a reason why
3 the council has been very explicit in setting an ACT for red
4 snapper, and it's because they know, if they manage by the ACL,
5 it can be up or down from that, and so, because it doesn't want
6 to overshoot that number, they manage through an annual catch
7 target, and so, even if it exceeds a target, it's not exceeding
8 the ACL.

9
10 **CHAIRMAN POWERS:** I sort of view this as you're trying to
11 address a couple of different things. The underages are saying
12 that we actually didn't catch as much, but the uncertainty says
13 that you might have, and we are -- Well, I'm not sure exactly
14 how we're quantifying that.

15
16 **DR. BARBIERI:** If you look at the PSE numbers for some of these
17 species, and you say, okay, by year, you can have a 60 percent
18 standard error around that estimate, or 70, or 90 percent, and
19 so it's just like, when we look at plus or minus -- The landings
20 was within this range, and it's not a deterministic value, and
21 so, to me, the management uncertainty in this issue is that
22 you're predicting that you're going to land this much, but you
23 can only measure it with a certain degree of precision and
24 accuracy how much you actually landed.

25
26 **MR. RINDONE:** I am trying to be able to send the ACL/ACT control
27 rule spreadsheet, and my computer is telling me that it no
28 longer wishes to cooperate today, and so it's not letting me.
29 Charlotte, I don't know if it's possible for you to pull one up,
30 but, if you go into the framework actions for reef fish, under
31 the modified recreational red snapper ACT buffers, there's a
32 folder in there that has a few of them in there, and any one of
33 them will do.

34
35 **CHAIRMAN POWERS:** While she is doing that, let me sort of ask
36 some questions about scheduling. Dave, you were on the schedule
37 for next, and it was allocated an hour. How much time do you
38 need?

39
40 **DR. CHAGARIS:** I would like some time for discussion, and I
41 would say that I would need at least forty minutes to do the
42 presentation.

43
44 **CHAIRMAN POWERS:** Also, the other agenda items for today had the
45 revision of the ABC control rule, and there was an hour-and-a-
46 half there allocated, and I was going to lead that. It won't be
47 anywhere near that. Also, on the agenda for today was the
48 selection of SSC volunteers for SEDAR 68, which looks like it's

1 just a few minutes, and so what I am suggesting is I would like
2 to have Dave do his stuff today, and the other two items we can
3 delay until tomorrow, but that means we have to address this
4 today, and that will give us a reasonable amount of time today
5 for Dave's presentation as well. Okay. Back to this agenda
6 item. Sean.

7
8 **DR. POWERS:** The big uncertainty that I see that remains is the
9 one that Joe and Shannon talked about, and was there any
10 discussion of if a stock had experienced recent overages and
11 making it not eligible for carryover?

12
13 **MR. RINDONE:** No, we didn't include that as part of the
14 simulations.

15
16 **DR. POWERS:** To me, unless you do that, you haven't removed all
17 the uncertainty that you can remove. I mean, you have reduced
18 uncertainty with your rules, but you haven't eliminated all the
19 major sources of uncertainty.

20
21 **CHAIRMAN POWERS:** The underages are pretty straightforward, to
22 me. People will argue that, if you went under, it's because you
23 didn't catch it as much. If you go over, I am sure the
24 arguments will be, well, you didn't measure it right, and so
25 that becomes important.

26
27 **MR. RINDONE:** If consideration of overages is something that you
28 guys would like to see, we presently have two simulations that
29 were done, one for red snapper and one for kingfish, and perhaps
30 requesting the Science Center to consider running those, by
31 including an overage at some point, prior to or after a
32 carryover, or both, and seeing what those effects are may be a
33 prudent motion.

34
35 **MR. MATENS:** Refresh my memory. Is an overage on red snapper an
36 overage of the ACT or the ACL?

37
38 **MR. RINDONE:** The ACL, and so the fishing season for red snapper
39 will be based on the ACT, but not unless the ACL is exceeded is
40 there a payback or not. For 2019, the buffer between the ACT
41 and the ACL for the for-hire component is 9 percent, and that's
42 for 2019 only, and it's -- Under the FMP, it's 20 percent for
43 the private recreational component. However, it varies by state
44 under the exempted fishing permits that are in effect through
45 the remainder of the 2019 fishing year. Then what it ends up
46 being in 2020 is largely dependent upon what happens in
47 Amendment 50.

48

1 **MR. MATENS:** To that point, for our experience, and Harry I know
2 is still listening, and Harry did an exemplary job of counting
3 fish last year, counting snapper, and we had a small underage,
4 and we were able to have a special season in the fall, with
5 volunteer captains, through Wounded Warriors, to eat up some of
6 that underage, and I think that was a -- For us, that was a
7 valuable thing.

8
9 **MR. RINDONE:** Would you look at that? John saved the day.
10 Charlotte will be able to pull up the ACL/ACT spreadsheet, and
11 this particular one is for gray snapper. This gives you an idea
12 of how this particular beast operates.

13
14 You are able to establish minimum and maximum buffers in the
15 upper-left, and those are user-adjustable. Then, as you work
16 through the sheet, we have stock assemblage, and a lot of these
17 scores are -- They are either binary or on a scale of up to two
18 or three.

19
20 For stock assemblage, either it's a single stock or it has an
21 indicator of -- ACL/ACT is for a stock assemblage, and it's an
22 indicator of a species or a stock assemblage, and so, like for
23 black grouper, for shallow-water grouper, you would mark a one
24 there. Otherwise, for something like gray snapper, where it's
25 just gray snapper, and it's not part of a stock complex, you
26 would mark a zero. Ability to constrain catch, the catch limit
27 has been exceeded zero times to one time in the last four years
28 for gray snapper, and that was the appropriate selection there.

29
30 If catch has been exceeded two or more times in the last four
31 years, then you would mark a number one, and then you would put
32 a year with a maximum overage, and you would add half a point
33 for every ten percentage points above the ACL. Again, that's
34 kind of a subjective way of modifying that, but it allows for a
35 little bit of additional consideration if the greatest overage
36 was considerable.

37
38 Precision of landings data, for the recreational sector, you
39 would put zero if there's a method of absolute counting, a one
40 for MRIP with a PSE score less than or equal to twenty, a two if
41 the PSE is greater than twenty, or not applicable. Then, for
42 the commercial landings, you would put a zero if the landings
43 are coming from the IFQ program, because those landings are
44 considered to be known very accurately, a one if landings are
45 based on dealer reporting, and a two if they are based on other.

46
47 Then timeliness, in the yellow there, you would put a zero if
48 in-season accountability measures are used or the fishery is

1 under an IFQ, and, again, the presumption being that, under
2 those circumstances, fishing will be constrained better to the
3 ACL than if you had one where in-season accountability measures
4 are absent.

5
6 Then we have weighting factors in the ugly Carolina blue there.
7 Sorry. NC State fan. You put zero if stock biomass is at or
8 above the biomass at optimum yield or proxy, a two if the stock
9 biomass is below the biomass at optimum yield or proxy, but
10 above biomass at maximum sustainable yield or its proxy, and you
11 guys can kind of go through the rest. The higher the number,
12 the worse the condition.

13
14 It's something for you guys to chew on, as far as how management
15 uncertainty with dealt with, and, admittedly, it's a
16 quantitative application using qualitative metrics.

17
18 **CHAIRMAN POWERS:** Kind of like the control rule.

19
20 **MR. RINDONE:** Kind of like the control rule.

21
22 **SSC MEMBER:** I'm glad you presented that. I mean, I had not
23 seen that before, and so it gives me a good idea of how you are
24 -- Can we get a copy of just one of these, so we can just kind
25 of look at it in detail, because I think you've done a good job
26 in being able to have at least an objective manner in how you're
27 trying to determine the allocations.

28
29 **MR. RINDONE:** Yes, and Charlotte will have sent that around to
30 you guys, and so you guys can fiddle with this and see what
31 sorts of results you get.

32
33 **CHAIRMAN POWERS:** It's also sort of documenting and codifying
34 the things that you're trying to address, which is probably just
35 as important.

36
37 **MR. RINDONE:** The main input that I have from you guys at this
38 point is that some consideration of overages should be accounted
39 for in the simulations, to try to get an idea of what the
40 effects are for when you have an overage and you do a pound-for-
41 pound payback in the following fishing year, but then, if you
42 have an underage, and you do a pound-for-pound carryover into
43 the following fishing year and what sort of effect that has, and
44 is that my understanding?

45
46 **CHAIRMAN POWERS:** Yes.

47
48 **MR. RINDONE:** Okay. I would think that you guys requesting such

1 a simulation from the Science Center, similar to the request
2 that you made for doing the initial simulations, would be
3 appropriate.

4

5 **CHAIRMAN POWERS:** Via a motion, I take it.

6

7 **MR. RINDONE:** Yes.

8

9 **DR. POWERS:** I will try it. **The SSC moves that the council**
10 **request the Southeast Fisheries Science Center to include**
11 **periodic overages in the simulations for carryover**
12 **considerations, just for carryover.** Any wordsmithing there,
13 Ryan?

14

15 **CHAIRMAN POWERS:** I think the discussion has pretty well defined
16 what we're after here, and so the summary of the meeting would
17 define things.

18

19 **MR. GILL:** Second.

20

21 **CHAIRMAN POWERS:** Any other discussion? Go ahead, Ryan.

22

23 **MR. RINDONE:** I was just going to say that I get where you're
24 going with it, and so, when we help the council draft a letter,
25 we'll know what to put in it. One thing to consider is that
26 you're saying "periodic overages", which implies more than one
27 overage in the simulation, and, in the previous simulations, a
28 single instance of carryover was what was considered, to see
29 what the effects would be, for example on red snapper, on being
30 able to meet the SPR target of the rebuilding plan, and a single
31 carryover did not impact being able to achieve 26 percent SPR by
32 2032 for red snapper. If you're going to consider multiple
33 overages, it may also be prudent to have them consider multiple
34 underages.

35

36 **DR. POWERS:** Okay. First, change "periodic" to "annual",
37 because we know the period. It's annual. Then put "underages
38 and overages of the ACL". Is that correct?

39

40 **MR. RINDONE:** If I'm being selfish, I would say that I liked
41 periodic underages and overages, assuming that you can't have
42 both in the same year. Then let them use their discretion as to
43 frequency.

44

45 **CHAIRMAN POWERS:** We had a second, and is there any further
46 discussion? **All those in favor, say aye; all those opposed.** On
47 the webinar, Doug.

48

1 **MR. GREGORY:** Yes.

2

3 **CHAIRMAN POWERS:** Harry.

4

5 **MR. BLANCHET:** Yes.

6

7 **CHAIRMAN POWERS:** Andrew. Okay. He's not present. **The motion**
8 **carries.** Is there any other issues that you wanted to talk
9 about in this agenda item?

10

11 **MR. RINDONE:** The council is currently scheduled to take final
12 action on this in April, and so waiting on an additional
13 analysis from the Science Center may delay that, and so I'm just
14 making you guys aware.

15

16 **CHAIRMAN POWERS:** All right. Thank you. Ken.

17

18 **DR. ROBERTS:** Thank you, Mr. Chairman. Very briefly, Ryan, in
19 June 2018, at the council meeting, they decided on share
20 fisheries not to be included in the carryover process, and was
21 that a time constraint or some sort of conceptual problem with
22 share fisheries, and are they picking it up and working on it at
23 some time in the future?

24

25 **MR. RINDONE:** The council has said that they are going to --
26 They didn't make a formal motion to it, but they said that they
27 would consider IFQ fisheries in a future document, and they
28 didn't specify when or what, but just that it would be something
29 that they would take up at a later date, and part of the reason
30 was that, based on the way that the IFQ programs are -- The way
31 that they have been implemented, if there was an underage for
32 let's say the red snapper IFQ program in a given year, and let's
33 say it's you, me, and Joe, and Joe only caught half of what he
34 could, Joe's underages carries over to all three of us and not
35 just Joe, and, due to that and some other complicating factors
36 about the implementation of the program, it was just determined
37 that it would be better to address any carryover for IFQ
38 programs in a separate document, because the way that that would
39 have to function would have to be different than the way that
40 this is set up.

41

42 **CHAIRMAN POWERS:** Okay. Next is Dave, and the expectation is
43 that this will be the last agenda item for today.

44

45 **UPDATE ON NOAA RESTORE ACTIVITIES**

46

47 **DR. CHAGARIS:** Thanks for giving me the time to speak today. I
48 wanted to talk about ecosystem models. I think it's been

1 probably about five years since the SSC has sort of visited any
2 ecosystem models, and we have this ongoing NOAA RESTORE project
3 that I wanted to bring you up to speed on.

4
5 The purpose of this presentation is to really give you guys an
6 update on some of these current modeling efforts, demonstrate
7 some potential utilities of the models, and then hopefully get
8 some feedback and stimulate some discussion. It's not my
9 intention to get into the weeds on any of the models themselves,
10 but I want you to kind of get a bigger picture of where we're
11 going, and hopefully help us understand where maybe we should be
12 going, and so I will give you some background on some modeling
13 and EBFM activities that have happened at the national and
14 regional level, review our NOAA RESTORE Ecosystem Modeling
15 Project, talk about some applications, and hopefully there will
16 be time for discussion.

17
18 Before we get into that, I just want to make some general
19 comments about ecosystem models and where I see them fitting in.
20 I mean, these aren't meant to be panaceas. They aren't going to
21 solve all of our problems, and they are definitely no
22 replacement for data collection and stock assessments. This is
23 just another tool that I think the managers can have at their
24 disposal, and they do things that are a little bit different
25 from others.

26
27 They can address ecosystem effects, lags in things that happen
28 as food webs respond to perturbations and things like that, and
29 so, again, it's not meant to replace anything, but it's
30 something that I think can add to our portfolio of tools for
31 management action.

32
33 What can we learn from ecosystem models that maybe we don't get
34 from other approaches, and so this spans from being strategic
35 and qualitative all the way up to more tactical and quantitative
36 advice and we actually talked about some of this today, when to
37 add more precautions, and so our discussion about gray snapper
38 and should we do F SPR 30 percent or 26 percent, and maybe
39 ecosystem models can help us understand what is potentially
40 happening in the system and maybe guide our decision-making
41 there, and then whether to adjust stock assessment parameters,
42 if possibly growth or mortality is changing, which can also help
43 us explain and forecast population fluctuations.

44
45 If we know more about what are the drivers of stocks, then we
46 can start to incorporate those into projections, and we can also
47 look at how these harvest policies perform under environmental
48 change, and so, if broad-scale productivity changes are taking

1 place, how well do these ACL targets perform?
2
3 Then you can take that a step further, and how do those harvest
4 policies affect other species, and so now you're kind of moving
5 into more ecosystem-based approaches, and so these models have a
6 place both in single-species and kind of multi-species
7 management, and then, at the end, can we -- What are some of
8 these global, system-wide policy options, and what can we
9 achieve from the system as a whole, and, when we have all these
10 species interacting through the food web, we can start to look
11 at kind of bigger goals for managing the entire Gulf of Mexico.
12
13 There has been a lot going on in the last five years or so with
14 EBFM. There has been a national NOAA EBFM policy and roadmap,
15 and I think we've been presented with some of the regional EBFM
16 implementation plans, and there's one for the Gulf, that I
17 believe Mandy Karnauskas has put together, and we now have
18 integrated ecosystem assessments pretty much in every region,
19 ecosystem status reports, fisheries ecosystem plans. There has
20 been a lot going on at the national level to support the
21 adoption of ecosystem modeling information.
22
23 If you go around the different regions, I think every regional
24 council is doing something related to EBFM, and they all have
25 some type of ecosystem committee, and we have an Ecosystem SSC,
26 and it has kind of changed a little bit over the years, but,
27 whether it's called a workgroup or a committee, or the Mid-
28 Atlantic has an Ecosystem and Ocean Planning Committee, and I
29 think that all the regions are doing that.
30
31 Pretty much all the regions have fishery ecosystem plans, and
32 some have more than one, and the Gulf, I believe, is moving
33 towards a fisheries ecosystem plan, and then some of the regions
34 definitely have more mature ecosystem modeling and ecosystem-
35 based management efforts, and I think you can look at the
36 Pacific, the North Pacific, and the New England Fishery
37 Management Council, where they have kind of more of an
38 integrated data collection and modeling program, where you have
39 kind of --
40
41 Like, on the Pacific, you have these ensemble models on the
42 California Current, and they are running multiple ecosystem-type
43 models, and the same with Alaska, with their ACLIM system, and
44 the Northeast has got a long history of their ecosystem dynamics
45 program, and so the councils are kind of plugged into that, and
46 I think that the Gulf is moving there, and we haven't quite
47 formalized that, but I believe that we've made some good steps
48 in recent years, and it's a good chance to capitalize on some of

1 that.

2
3 We looked specifically at the Gulf and the timeline here, and
4 maybe some of you have seen this plot on the right here, and
5 this is actually used in kind of marketing for technological
6 development, but I think it applies to ecosystem models, and
7 especially what has happened here in the Gulf.

8
9 Probably the biggest thing that happened was about fifteen years
10 ago, was this ecosystem pilot project that Steve Atran kind of
11 led, and we had a series of three or four modeling workshops,
12 and that established an Ecosystem SSC, and that was 2005, and I
13 would say that, probably about halfway through that, we were at
14 this peak of inflated expectations, where we had Carl Walters
15 and Jerry Ault and Kenny Rose and all these heavy-hitter
16 ecosystem modeler folks were telling us what all these models
17 could do.

18
19 Then that kind of led us to this trough of disillusionment,
20 which I feel like we were at following that pilot project, where
21 we put all this effort in, but, really, nothing kind of
22 materialized out of that, but now, after we've done some more
23 with the West Florida Shelf, and the RESTORE Act has led to some
24 enhanced data collection and some additional modeling, with
25 Atlantis and Ecopath and Ecosim, and so I think we're at this
26 point of the slope of enlightenment, where we can actually start
27 thinking a little bit more about the utility of these models and
28 what can we actually reasonably expect to get from them.

29
30 I would say that, around this point in time, we're kind of on
31 this curve up, and so maybe it's a good point in time to revisit
32 ecosystem models.

33
34 Now I'm getting into our project, and the project is titled
35 "Ecosystem Modeling for Fisheries Management in the Gulf of
36 Mexico", and this is a three-year project that was funded by the
37 NOAA RESTORE Round 2 funds, under the decision support tool
38 priority, and so it requires a pretty strong integration
39 component with managers, and the goal is to basically update and
40 adapt multiple ecosystem models in the Gulf, and what we
41 proposed to do was to apply these models within kind of a
42 single-species context, focusing first on gag grouper and red
43 tides, and then also having another application with Gulf
44 menhaden, being a forage species, where an ecosystem model is
45 actually really critical in that regard.

46
47 We have a pretty large team here. The modeling team includes
48 the co-PIs at the Science Center, Skyler and Matt Lauretta, as

1 well as Kim de Mutsert, who many of you know has done a lot of
2 ecosystem modeling in the northern Gulf, as well as some
3 students and post-docs, as well as some of the Ecopath/Ecosim
4 developers are onboard, and then we've been working with some
5 identified end-users, and these are going to be the SSC and
6 council and commission members, and so Steve VanderKooy has been
7 really well involved with the Gulf menhaden work. This list
8 changes and grows, and we're in more or less contact with some
9 of these people over time.

10
11 We have three models associated with this project. The first
12 one is the West Florida Shelf model, which I have presented to
13 this group in the past, and there is also the Gulf-wide model,
14 and so basically the U.S. Gulf waters out to 400 meters, and
15 this is the model that was developed at the Science Center by
16 Skyler and Matt, and that model kind of stopped at an Ecopath
17 phase, and we want to advance that through, to get a calibrated
18 time series, so we can do some policy analysis with it.

19
20 Then the NGOMEX model was developed by Kim de Mutsert, and I'll
21 go through these a little bit more, but, basically, the updates
22 we wanted to do was to increase the functional groups, so they
23 matched management needs, bring in some new datasets,
24 recalibrate the models, make those spatial models dynamic, and
25 actually build some new Ecospace functionality, particularly to
26 address red tide, so we can overlay red tide maps into the
27 spatial models. Those red tide maps, they could be oil spill
28 maps or any other type of spatially-explicit kind of
29 contaminant.

30
31 Just real quick, the models that we're developing here are using
32 the Ecopath with Ecosim and Ecospace modeling platform, which is
33 a free software that's available, but it basically has three
34 components, and the Ecopath component is just a mass-balanced
35 snapshot, where you need inputs for biomass, mortality,
36 consumption rates, diet composition, and landings, and that just
37 kind of gives you snapshot metrics of the ecosystem, and so
38 network analysis, trophic levels, ecosystem-type indicators.

39
40 Ecosim is really the workhorse of this framework. This is the
41 time dynamic simulator, and it models changes in predator-prey
42 abundances based on foraging arena theory, and it's also
43 calibrated to time series, and it's a very flexible simulation
44 tool, and it's really fast. Even in the larger models, a
45 thirty-year simulation is run in a few seconds, and it's got
46 some build-in modules for batch runs, management strategy
47 evaluation, policy optimization, equilibrium analyses, and so
48 there's a lot built into Ecosim.

1
2 That's actually what we're focusing a lot of our efforts on
3 right now, as we move into Ecospace, which basically replicates
4 the Ecosim dynamics over a spatial grid, but you need additional
5 inputs for movement, habitat preferences, habitat maps, and it
6 allows you to look at more spatially-explicit environmental
7 forcing and harvest policies.

8
9 The West Florida Shelf model is the one that we have developed
10 previously at FW, and also at UF, and this model now has eighty-
11 three functional groups and eighteen fishing fleets, and it has
12 got very much an emphasis on the reef fish and the fishery
13 management plan, and so I see this model as being something that
14 could actually feed probably directly into the Reef Fish FMP, to
15 look at some of the multi-species, system-wide yield type
16 questions.

17
18 We have snappers, and we have three ages of red snapper, and
19 then we have vermilion snapper and gray snapper, and then all
20 other snappers are combined into an other snappers group. For
21 groupers, we have expanded the age classes for red and gag
22 grouper, and so they now have six age classes, to make it match
23 the stock assessments a little bit better. Then we have black
24 grouper, scamp, yellowedge, goliath, and then other shallow-
25 water and other deepwater grouper.

26
27 We have two tilefish species, and then we have your other reef
28 fish, with greater amberjack, triggerfish, hogfish, lionfish,
29 black sea bass, and red porgy, and then all the other grunts and
30 different types of reef fish are aggregated into functional
31 groups.

32
33 The U.S. Gulf model is the Northern Gulf Continental Shelf out
34 to 400 meters. This one has seventy-eight functional groups and
35 sixteen fleets, and this is, again, focused on federally-managed
36 and highly-migratory species, and so we do have more of -- The
37 pelagic group is better represented in this model than in the
38 reef fish model.

39
40 This model was developed prior to this project being funded, and
41 they had developed this model to try to alleviate some of the
42 concerns of all these other Gulf models, and you remember that
43 Carl Walters put together that model, and it was called a Gulf
44 of Mexico model, but it was really a Florida model, and it had
45 things like snook in there that weren't really critical to the
46 entire Gulf, and so they have resolved some of those structural
47 issues and now are trying to get this model up through the
48 Ecosim and into Ecospace phase.

1
2 Then the third model is the NGOMEX model, and this model has
3 been funded through the NGOMEX National Center for Coastal Ocean
4 Sciences, and it's designed to study hypoxia effects, and so Kim
5 has done a lot more of -- Most of her model is focused on
6 ecological questions, and so we're kind of bringing her into our
7 realm, to get her involved with some of the fisheries management
8 and the Gulf menhaden applications that we plan to do, because
9 her model kind of covers the center of distribution for Gulf
10 menhaden, and her model is focused a lot more on the spatial
11 dynamics, and there is links to ROMS models and coupled with
12 some of these biophysical models, to get your dissolved oxygen
13 and chlorophyll drivers, and so you can see she's got her
14 spatial model running. Her model is a little bit ahead of the
15 other two, as far as the spatial component, because the NGOMEX
16 funding came in a year or two earlier.

17
18 One of the things we did when this project first kicked off is
19 we held a scoping workshop in St. Pete, and this was towards the
20 end of 2017, and, actually, right as Irma was bearing down on
21 St. Petersburg, we were sitting in a conference room at the
22 Hilton, and so it was a little nerve-wracking, but we did
23 actually get some good information out of it, and we were able
24 to publish a paper, and the goal was to basically identify what
25 types of -- Broadly speaking, what types of questions can these
26 models address.

27
28 The things that came out of this workshop were stuff like what
29 are the effects of environmental stressors on exploited fish
30 stocks and do multi-species reference points perform better --
31 Do they lead to better management outcomes? What are the
32 impacts of invasive lionfish? How does habitat contribute to
33 fisheries productivity, and these are things that maybe fall
34 within the council's realm.

35
36 Can spatial management enhance the sustainability and recovery
37 of exploited fish stocks? How to account for ecosystem services
38 when managing forage fish? Can ecosystem models help improve
39 stock assessments? One of the things that was actually brought
40 up by council staff was how can we effectively communicate
41 ecosystem modeling to stakeholders, and that's something that
42 modelers haven't really focused on as much. We talk well to
43 each other, but communicating ecosystem models to a larger group
44 is something that we haven't actually thought about.

45
46 This is kind of the flow for our project. Starting at the top
47 on the left, we had the scoping workshop, and then what goes
48 down the middle is what we plan to do with the models, and, on

1 the left side, we have integration with fisheries management,
2 and so that circle is showing how we plan to integrate with
3 fisheries management along the process, and that includes the
4 Gulf Menhaden Advisory Committee, the Gulf SSC, as well as folks
5 at SERO and along the management framework.

6
7 On the right, we have integration with stock assessment, and so
8 we're doing some of that now with red grouper, and then, also,
9 we're going to be involved with gag grouper as well, and then,
10 at the end, we plan to do some end-user training and then
11 eventually transfer the tool over, and so we're hoping that,
12 through this process, we can contribute at various stages, or at
13 least find where we can contribute information along the way,
14 and maybe that's at the assessment phase, the SSC phase, or even
15 when the scoping and options papers are going through the
16 process for an FMP.

17
18 Now I'm going to kind of switch gears and talk about some
19 potential applications of these models, and, if you think back
20 to our sort of the questions that we can expect to address, we
21 can couch these in terms of when to add more precaution. If we
22 think about what has happened with red tides over the last few
23 years, this is an area that we're focusing work on, and, also,
24 multiple stressors, and when do we adjust these stock assessment
25 parameters and help explain population fluctuations, and this
26 can be a response to heavy exploitation. In the northern Gulf,
27 we've got oil spill, lionfish, heavy exploitation, and all those
28 stressors that are impacting the stocks.

29
30 How do these harvest policies perform under environmental
31 change, and what if you have big changes due to possibly climate
32 change and non-stationary changes in primary production, stock
33 rebuilding plans and forage species, multi-species reference
34 points? I will spend more time focusing on the work that we've
35 actually been doing and then provide some examples for others.

36
37 I won't belabor the issue with red tides. We all know that last
38 year was extremely severe red tide, and it seems like they're
39 becoming frequent and severe, and so one of the main questions
40 that has come up is what are the impacts on grouper populations,
41 and they've been able to estimate that in the stock assessment,
42 but that requires running a full stock assessment, and it
43 doesn't allow for the timely and contemporary impacts, and so,
44 when a bloom is ongoing, we sort of need to know what are the
45 potential impacts now, when you're here at this table trying to
46 decide on an ACL.

47
48 Also, it helps for it to be quantitative. It's not enough to

1 just show that, well, catch rates are higher here, and then next
2 year they were lower in this same place where the bloom was, and
3 we want to actually try to quantify it in terms of some relative
4 mortality, and the ecosystem models will eventually allow us to
5 account for not just the bloom extent, duration, and severity,
6 but also how the species are distributed over space, as well as
7 their movement rates and the food web impacts, because these
8 events are impacting the entire system and not just single
9 species.

10
11 The approach we've taken so far is we've been building these red
12 tide maps and overlaying them with species distributions and
13 applying these logistic mortality functions, and so we start
14 with the satellite imagery of fluorescent line height, to
15 basically capture the extent and duration of monthly maps of red
16 tide blooms, and then we use the FWRI harmful algal bloom data,
17 the *Karenia brevis* concentration data, to get at the severity of
18 the bloom, and then we krig that clip to the satellite imagery,
19 to develop these red tide maps. We overlay those with the
20 species distributions from Ecospace and apply a mortality
21 function in the grid cells where the species and the blooms
22 overlap.

23
24 When we did this for red grouper for the three age stanzas that
25 were in the model, we see a pretty clear pattern. The first is
26 that 2005 still stands out as the most severe year for red tide
27 impacts, an estimated 43.8 percent of the biomass was killed in
28 2005, and that matches with the stock assessment. We actually
29 hinged it on the estimate from the stock assessment, and so it
30 is consistent with that 2005 point value.

31
32 2006 was also another bad year, and then all other years were
33 kind of below the baseline, and that's looking at total biomass,
34 but, if you break this down and look at the impacts on the age
35 classes, you see a much higher impact on juveniles, because the
36 blooms tend to be more severe and closer to shore, where the
37 juveniles are distributed.

38
39 For the age-zeros, we see the mortality range between 10 to 20
40 percent in five of the last eight years, and, for the sub-
41 adults, ages-one to three, it's also elevated, 5 to 13 percent
42 in five of the last eight years, and so we're seeing some
43 persistent effects of red tides on especially the juveniles for
44 red grouper.

45
46 What we conclude is that these red tides have likely had an
47 impact on recruitment for red grouper, and the implications for
48 this is that maybe we need to consider lower survival of

1 juveniles in the stock assessment, or below average recruitment
2 in your ACL projections, or, just in general, more precautionary
3 management.

4
5 This is something we're going to continue with red grouper, and
6 we may not have the implementation in the Ecospace for the red
7 grouper assessment, but we are on track to have that for the gag
8 grouper assessment, as we had proposed.

9
10 Another thing is teasing apart effects of multiple stressors,
11 and this is a separate model just to demonstrate the utility of
12 this that actually we've developed with Will and looking at
13 lionfish in the northern Gulf, utilizing his ROV survey and
14 their stomach content analysis program, but what we see here is
15 the plot on the right is the time series of cardinalfishes from
16 the ROV survey, and, if you recall, the oil spill was in 2010,
17 and lionfish didn't actually invade the system until -- They
18 were first detected in 2010, and they actually didn't start
19 really increase their abundance until about 2012.

20
21 You see we're fitting the model to those time series from the
22 ROV survey, and we have accounted for that acute mortality in
23 2010, and this includes lionfish in this fit, but, if you take
24 lionfish out of the system, we can see how this recovery of
25 cardinalfish might have been, and so what we conclude here is
26 that lionfish are impacting the recovery of these small demersal
27 reef fish following the Deepwater Horizon.

28
29 We see this for most of their main prey items, and so
30 cardinalfish and these small wrasses and small sea bass and
31 lizardfish, and you can see that that blue line is the
32 trajectory without lionfish.

33
34 There is also some indirect and slight positive effects for some
35 of their secondary prey items, and so, as you get the declines
36 in the mesopredators through the lionfish, there is some trophic
37 cascades, and you get increases in benthic invertebrates, and so
38 those that are the less dominant prey items actually show some
39 benefits under the lionfish scenarios.

40
41 You can think about how this might apply to red snapper,
42 especially in that region where you have really high
43 exploitation, and you do have some predation, and definitely
44 some competition, by lionfish. You have episodic mortality
45 events, and then you have kind of broader red tide effects that
46 could be impacting the stock, and how does all of that explain
47 some of the trends in growth and survival, and then how do we
48 actually use this information to improve stock assessments or to

1 help guide us with our management decisions?
2
3 Another way that these models I think can plug into the process
4 is just through stock projections, and I presented some of this
5 a few years back, but we can actually run stock projections with
6 the Ecosim model, just like you can with the stock assessment
7 model, and so, if you have a prescribed F scenario, then we can
8 prescribe those in the ecosystem model and evaluate them
9 alongside the stock assessment, but what the ecosystem models
10 allow you to do is also simulate changes in other species.
11
12 What you see here on the top, this is from the 2009 stock
13 assessment for gag, and the bottom line, the blue line, would be
14 the F current, and then, as you go up to these lower fishing
15 mortality rates, the difference between the Ecosim and stock
16 assessment projection gets larger, and so Ecosim tended to
17 predict lower biomasses in the stock assessment when you get to
18 these higher stock sizes, and that's because it more explicitly
19 accounts for the density-dependent foraging and food
20 availability, and, also, we have other stocks that are
21 rebuilding at the same time in this simulation here, and so
22 there is other inner-specific competition that starts to kick in
23 at higher stock sizes.
24
25 You may not see that when everything is depressed, but, if
26 you're trying to get everything up to a level of OY, then
27 competition might start coming into effect at that point.
28
29 We have also used the stock projections to look at how non-
30 stationary changes in primary production could lead to
31 uncertainty in the projected biomass, and so the plot on the
32 bottom-left shows some examples of just some randomly-simulated
33 non-stationary primary productivity patterns that are impacting
34 the phytoplankton group and permeating up the food web.
35
36 Then, on the right, we have the projection scenarios at F
37 current and Fmax, and this is, again, with gag grouper, and then
38 90 percent Fmax and 75 percent Fmax, and you see that the dotted
39 line is the baseline simulation under these scenarios, and then
40 the distributions show either just some random primary
41 production in green, and it's still centered on that dotted
42 line, and the gray line shows just, when you do some stochastic
43 simulations, changing the initial biomass in the projection, and
44 so looking at changes in predator-prey biomasses, and it's still
45 centered along the line, but, when you get these non-stationary
46 changes in primary production, you see that the distribution is
47 now shifted below that dotted line, and so most of the
48 projections fall below that baseline prediction when these non-

1 stationary changes in the system-wide primary production are
2 simulated.

3
4 I think this could also be built into some of the projection
5 simulations, if there is concern about future effects of climate
6 and how well do our harvest control rules perform when the
7 system is changing underneath this, and these models can help us
8 understand some of that.

9
10 Now, kind of getting out of the single-species focus and looking
11 at -- All of this can actually be projected on to see what are
12 the effects on other species, and so this is an analysis that we
13 did looking at, again, the old rebuilding strategy for gag
14 grouper, and, for the most part, you see most of the
15 distributions are centered on zero, and so it didn't have much
16 effect on most of the species in the system, but there were a
17 few species, vermilion snapper and black sea bass, which are
18 sort of these less-competitive reef fish species, that did show
19 some negative effects of rebuilding gag grouper.

20
21 These are top-down predation effects that could actually happen
22 as you're trying to rebuild these predator species, and so this
23 could actually be another point of caution for, as we're trying
24 to rebuild multiple species, or maintain higher species at
25 higher levels, what are the tradeoffs on other species in the
26 system.

27
28 Something we're working on now with the Gulf States Marine
29 Fisheries Commission and their new Gulf Menhaden Fishery
30 Management Plan, where they're actually trying to define some
31 reference points, and they are exploring some management
32 strategy evaluation approaches and harvest control rules, and
33 we're plugged into this process.

34
35 We actually just had a meeting a few weeks ago, and so this is
36 new, but what we're going to do is help them define some of the
37 objectives and reference points, and we can evaluate their
38 harvest control rules, and we can screen those through the
39 ecosystem models to see what are the potential effects on
40 predators, and I think that will help them meet their fishery
41 management plan objectives, and it will help industry get their
42 MSE certification, and so there will be more to come on this
43 over the course of this year.

44
45 Something else that I think is really interesting is the idea of
46 multi-species reference points, and this is an example from
47 Steve Mackinson's group, where they have looked at the European
48 Commission's policy to achieve MSY for all stocks

1 simultaneously, and then he asks the question of, well, is that
2 possible.

3
4 Here, they have a pretty strong predator-prey system, looking at
5 whiting as prey, and the MSY is much lower when the predator is
6 at their BMSY level, and, basically, you can't divorce these
7 mixed fisheries from each other through the food web
8 interactions. If you think about this in the reef fish plan, we
9 may not have -- With the reef fish management unit, we don't
10 have these strong predator-prey interactions, but you do have a
11 lot of competition.

12
13 These species are sharing kind of these isolated places on these
14 reefs, and they are feeding off the same food source, and so can
15 we actually achieve OY for all of our reef fish species? This
16 is something that I plan to evaluate with the Ecosim models,
17 once we finalize the calibrations.

18
19 Some constraints and targets on the total system yield, and so
20 this is an example of an Ecosim policy optimization, and so what
21 this is basically looking at is the idea that all of the fishing
22 fleets are linked through the trophic interactions, and so the
23 productivity of one fleet is dependent on what happens with
24 another fleet, and so Ecosim has an optimization routine where
25 you can ask what is the effort combination that balances the
26 tradeoffs in management objectives, and so, in this plot, if you
27 go all the way over on the right, the X-axis is basically the
28 conservation objective, and the Y-axis is going to be an
29 economic objective.

30
31 Each one of those points is an optimization routine, and the
32 ones on the right are ones that are heavily weighted towards
33 conservation, and the ones that are on the left and high on the
34 Y-axis are heavily weighted toward the socioeconomic component,
35 and so what you see is that there is a tradeoff frontier here,
36 and you want to be in this area around that red box, where both
37 values are high.

38
39 What that says is that a balanced solution does exist, but not
40 all species are above that threshold. There is tradeoffs within
41 each of those points, where some of the reef fish species are at
42 higher biomass, and some are actually kind of cultivated down
43 lower, and so you can get a higher yield, total yield, at a
44 better dockside value, in those situations.

45
46 You can also use this to kind of look at an ecosystem-level
47 scorecard, and so I've got those points up there, where the 2009
48 base case things were pretty poor, and these optimizations were

1 run over forty years, I should say, and, if you look at the --
2 Twenty years. Excuse me. If you look at the twenty-year status
3 quo with rebuilding plans in place, the blue triangle moves us
4 closer to that point.

5
6 Rebuilding gag moves us a little bit closer to the optimum
7 situation, and then we have a longline effort reduction scenario
8 that we simulated as well, and so, conceptually, you can see how
9 first we can define what would be a target, as far as total
10 system yield and profits, and then what policies move us closer
11 to that target.

12
13 Then another example here, and this is from the northeast
14 Pacific Ocean that Cam Ainsworth has run with his -- I believe
15 it was Ecosim and Ecosim models, and I think he's also done this
16 with Atlantis, but it's basically looking at climate effects of
17 different changes, hitting primarily productivity, species range
18 shifts, zooplankton size structure, and ocean acidification.

19
20 Basically, what he found was that there are impacts on fisheries
21 biomass, landings, and diversity, but they're mixed. There is
22 winners and losers, and there is synergies in these simulations,
23 and so, if you include one driver, you will get a different
24 result than if you include all drivers, and so it's important to
25 look at the cumulative effects of these stressors. Also, they
26 found regional differences, and so depending on how the species
27 are distributed and how the stressors are played out over space
28 has an effect as well.

29
30 Some of the applications we can do with Ecospace, and so there's
31 now this cool Ecospace spatial dynamic framework, and so we can
32 derive the underlying habitat maps at monthly timesteps, and so
33 now we can simulate changes over space and time, as conditions
34 change over space and time, and so this has actually proved to
35 be pretty useful, as far as linking with remote sensing and
36 oceanographic models and also using it to kind of run through
37 some of the climate projection models that can be run through
38 Ecospace, and they've done a lot of this in the Mediterranean.

39
40 We have also used this to evaluate MPAs, and then you could also
41 use the Ecospace model to look at how regional management may
42 affect the entire stock, and so, for example, if we fish things
43 harder in the eastern Gulf, what is the effect on the entire
44 stock?

45
46 Then, lastly, having looked through all the fishery ecosystem
47 plans, I think that almost all of them have some reference to
48 ecosystem models, and, in general, they tend to provide some

1 context for the biological interactions, and so you may see an
2 ecosystem model may come into play in an FEP by just describing
3 the food web structure. In some cases, they have gone as far as
4 to provide actual catch advice, and so kind of thinking about
5 what's the total system yield that you can get, and that kind of
6 goes into informing the fisheries ecosystem plan.

7
8 They have been used for these climate vulnerability analyses and
9 risk assessments, and, also, where we have these ecosystem
10 status reports that are coming out of the IEA programs, and they
11 have these ecosystem indicators, those are usually just kind of
12 qualitative information, but, if we can set up the models to
13 actually simulate those changes and the indicators, we can then
14 understand a little bit more about, well, what does this
15 indicator mean for fisheries productivity.

16
17 Then some of them actually have resulted in some feedback from
18 the FEPs, and so the FEPs have utilized the -- They have gone on
19 to inform sort of this ecosystem-based research portfolio, which
20 includes ecosystem models, and so some of the FEP work, in a
21 couple of cases, has led to recommendations and kind of future
22 directions for ecosystem models.

23
24 Just to summarize what I said, the advice that I think these
25 models can provide can be qualitative or quantitative, and it
26 can be something that is strategic, as far as like should we be
27 more precautionary now, or are things looking okay, or they could
28 be tactical, as far as going all the way to actually developing
29 harvest control rules.

30
31 They can contribute to single-species assessment and management,
32 as well as EBFM policies, and I think they're particularly good
33 at evaluating environmental perturbations, because they are
34 capable of impacting the entire food web, and so you probably
35 get a more realistic picture of recovery times and lags that may
36 happen when the event occurs, and these tools are available now.

37
38 I mean, there is definitely considerable uncertainty, and I
39 acknowledge that, and there is data limitations, but I think
40 that the tools themselves are operational, and, the more that we
41 can start to use them and bring them into discussions, the more
42 we can improve them and actually try to get the information
43 exactly that the SSC needs.

44
45 With that, I will kind of leave now -- This is the end of my
46 presentation, but I will leave with some discussion topics, and,
47 if anybody has any other questions, we can go that route too,
48 but what I see as important to understand is how can these

1 models help improve single-species assessment and management,
2 because that's really what this body focuses on now, and what
3 are the key management tradeoffs to be evaluated? We saw some
4 of that with the objectives that we reviewed in the FMPs, and
5 there are some conflicting objectives, and how do we balance
6 across those objectives?

7
8 What is the recommendations for integrating into the management
9 framework? Do we work through SEDAR and the SSC, or do we try
10 to work with SERO and council staff during the FMP development
11 process? What are seen as some major impediments with these
12 ecosystem models? Then what are some recommended next steps?
13 Thank you for your time.

14
15 **CHAIRMAN POWERS:** Thank you. Shannon.

16
17 **DR. CASS-CALAY:** That's a really exciting presentation, and I
18 think -- I hope to see a lot of this become reality in the
19 future. That being said, I am very, very aware of the data
20 limitations that we suffer in the Gulf of Mexico, and just
21 getting a handle on the removals of our target species can be
22 quite difficult, because the uncertainty is very large, and
23 understanding things like discards is even worse, and discard
24 mortality.

25
26 The food webs that these models rely on -- I think it requires a
27 very careful evaluation from some peer review process, because
28 they vary in quality, and so we have seen certain examples of
29 food webs that produce very aberrant results that are clearly
30 not true, and so I think that -- I am very hopeful, and I think
31 this is probably actually the first presentation of this that
32 I've seen that I see so many practical implications and that
33 maybe we can get there at some time in the near future, but I
34 think that we need to be very careful, because this is
35 essentially an opportunity to create an alternative assessment.

36
37 The Science Center has always been open to the concept of an
38 assessment from another source, but it needs to go through some
39 kind of rigorous review process that is essentially the
40 equivalent of SEDAR, if it is not SEDAR, because these are going
41 to -- I would hate to rely, for example, on journal editors to
42 peer review. It's a different level of review that needs to
43 occur.

44
45 When we go through an evaluation, reviewers examine everything,
46 from the data inputs through the assumptions we've made through
47 -- You know, and you've been a reviewer, and you're a very good
48 one, and so it's a -- I just think we need to be very cautious

1 that, as we embark on different methodologies, that we run them
2 in parallel and that we put them through very substantial peer
3 review processes, to be sure that they meet the bar necessary to
4 develop management advice, but I am seeing progress in these
5 sorts of topics that causes me to be somewhat enthusiastic.

6
7 **DR. CHAGARIS:** I agree 100 percent about the need to have a
8 technical review for these models, and other regions have done
9 that. They have reviewed Atlantis on the west coast, and I
10 think they went through some reviews in the Northeast, and I
11 absolutely agree, and that's going to be necessary, I think,
12 before these things are formally adopted.

13
14 **CHAIRMAN POWERS:** Thank you. Chairman's prerogative. One of my
15 biases about how models work in a decision-making framework is
16 that the scientific models really don't become -- Well, they
17 aren't part of our normal business routine until they affect a
18 decision, and so Shannon mentioned that, well, you can't do it
19 in SEDAR, and well why not?

20
21 The reason I bring this up is that, basically, at some point,
22 you throw these models in there and let them rise to the
23 occasion, give them the opportunity, and, if they're not going
24 to be effective in adjusting the decision, so be it, but, to me,
25 that's sort of the crucible that has to happen.

26
27 **DR. CASS-CALAY:** It was absolutely not my intention to say that,
28 if I did, and I mean that it needs to be through some peer
29 review process. If not SEDAR, then another one, but this would
30 be more than welcome to be reviewed in a SEDAR context, but it
31 just would be subject -- Essentially, we would have to run
32 models in parallel.

33
34 **CHAIRMAN POWERS:** That's where my bias comes in, in the sense
35 that it really -- In order to make some progress with these
36 things, you have to force them into the decision-making
37 framework, and, like I said, if the science is good, it will be
38 used, and it will be effective, and, if it's not, then so be it,
39 and we'll go from there. Luiz.

40
41 **DR. BARBIERI:** I agree completely, Joe, and what I really,
42 really like about this, and, Dave, from the very beginning that
43 he started doing this stuff, it's framing a lot of these
44 questions and issues that are relational to what the SSCs and
45 the councils -- The operational things that we have to deal
46 with, and I think that has helped really bring what Shannon said
47 about the applicability of this, and that sometimes gets very
48 difficult to explain to the council and to stakeholders, and,

1 here, it's easier to see, one.

2
3 Two, I really think it's a plus -- I mean, it's great that you
4 have a very broad group of participants in this whole process,
5 academic and otherwise, and a whole bunch of colleagues, but you
6 remain, to some extent, connected to the Science Center and the
7 IEA effort there, so don't lose that connectivity, right, and
8 don't generate completely parallel systems, and so I like that
9 as well.

10
11 Then the way that you framed this, in a way that, for example,
12 you can generate like natural mortality vectors, for example,
13 better-informed vectors that can give us a better idea, and you
14 showed it for gag in a different natural mortality, things that
15 we sometimes don't have a good ability to generate those vectors
16 that are well informed for inputs into single-species
17 assessments, and so I agree with Shannon, and it was a great
18 presentation, and it was very inclusive, but I like really the
19 real applicable portions of this and the effort that you guys
20 have made to stay connected with the existing processes.

21
22 **DR. CASS-CALAY:** One thing that you should think about, as
23 you're moving towards trying to make these sorts of products
24 applicable to management, is the need to then operationalize
25 them, because, once you start in this process, you have to
26 maintain these models now, and you have to update them when
27 necessary, and you have to respond to council requests when they
28 ask you for another analysis, and so it has to be part of your
29 thought process of how do you go from essentially a research
30 topic to making something fully operational and maintainable,
31 and it's a big undertaking.

32
33 **DR. CHAGARIS:** That's something that definitely NOAA RESTORE
34 emphasizes, is how do you maintain and update these, and I
35 think, all of our efforts that we've been doing the last year or
36 so, we have really tried to do them with the idea that we may
37 have to do this again in three years, and we may have to update
38 these datasets and recalculate inputs and things like that, and
39 so we're trying to develop scripts and things that can make that
40 more efficient.

41
42 Then the other thing is the resources are limited, and I think,
43 at some point, there's going to have to be a decision about
44 what's the role of agencies and academics in maintaining and
45 further developing these ecosystem models, and at least other
46 Science Centers have some dedicated ecosystem modeling staff, in
47 other regions, but not in the Southeast, and so the resources
48 are limited, and you guys have already got a pretty high

1 assessment load and analysis load, and so that's a very
2 important consideration.

3
4 **DR. NANCE:** I was just going to say also that, when we look at
5 it as moving forward to having a model that is used for
6 assessments, it's also that we can use these models as input
7 into existing models, and I think we've seen that with red tide
8 and things like that, and I think that's a utility, also. They
9 are not stand-alone models, but they can be utilized as input
10 into other things.

11
12 **DR. CASS-CALAY:** We already have a long history of
13 collaboration, on red tide for example, and I think the issue is
14 not as much expertise at the Science Center as time and
15 resources, and so it's really just a matter of -- We could
16 probably transition to a different type of model, but we can't
17 necessarily run everything we're doing now plus, but you are
18 correct that, currently, we are the only center, that I'm aware
19 of, that doesn't have a dedicated ecosystem group with dedicated
20 ecosystem modelers.

21
22 **CHAIRMAN POWERS:** Any other comments? One comment that I was
23 going to make, and this has to do with multi-species reference
24 points, and this is more of a technical thing, but the slides
25 you gave basically is looking about what's the effect of trying
26 to attempt to have MSY sorts of issues and how they affect other
27 species and their MSYs and profit and so on, but it always
28 seemed to me that -- One of the benefits of fisheries management
29 and the fisheries sciences is we have something called MSY.

30
31 For better or for worse, there is something there that has some
32 theoretical basis, and that sort of drives our criteria, and can
33 there be something equivalent with ecosystem things? In other
34 words, things like what would be an acceptable definition of a,
35 quote, unquote, good ecosystem, and not necessarily getting into
36 the details of individual species, but maybe how the species
37 distribution looks, species abundance and distribution looks,
38 and things like that.

39
40 That would imply then what the interaction matrix -- How that
41 affects that, and so, again, these models could be looked at in
42 that way, in terms of what defines some sort of criteria about
43 what's acceptable and what isn't, and, again, in my view, it
44 isn't looking at individual species, and it's not really caring
45 about which species win and which species lose, but rather the
46 shape of the ecosystem. That's just a comment.

47
48 **MR. GREGORY:** Joe, I have a brief comment.

1
2 **CHAIRMAN POWERS:** Yes. Go ahead.

3
4 **MR. GREGORY:** I know these models include habitats and habitat
5 linkages to other parts of the ecosystem, and I would like to
6 see an attempt made, and I know it's difficult, but an attempt
7 made to look at how this has changed historically.

8
9 It has always kind of made me wonder about us trying to rebuild
10 a population back to where it was in 1950, or earlier, when the
11 environment itself has changed dramatically, and that was really
12 brought home to me when I read Jack Davis's book on the Gulf of
13 Mexico, and he went through a snapshot of a bunch of changes
14 that have occurred in the Gulf over the years, primarily since
15 World War II, and it's pretty dramatic, and so it could be that
16 we're trying to rebuild a species to a population level that is
17 not possible anymore, because of the environmental changes, and
18 if, we can get any kind of insight into that, it would be
19 helpful. I know it's a major challenge that we've got, just
20 doing what you're doing now, and that's great, but we need to
21 kind of look at that in context. Thank you.

22
23 **CHAIRMAN POWERS:** Thank you. Will.

24
25 **DR. PATTERSON:** But the criterion isn't rebuild to some past
26 state, but it's the estimate of what an unfished condition would
27 be today, and, if you've captured those dynamics in the
28 assessment, or in the multi-species model, then that should be
29 there, but I think one thing that -- I mean, we've seen it with
30 Dave's input into single-species assessments to date, and that
31 is like with red grouper.

32
33 Were it not for the red tide mortality estimates on the
34 juveniles, the earlier assessment, then that would have looked
35 completely different. We would have had a depletion due to
36 fishery, or maybe it says recruitment failure, because the model
37 has to put that somewhere, in a mortality or a recruitment
38 deviation, and I think, in red snapper, we see, in the eastern
39 Gulf, some real issues with recent recruitment, and those
40 negative recruitment deviations -- You have the oil spill, and
41 you have persistently high fishing mortality rates for sure,
42 especially in the recreational fishery, but then you also have
43 invasive lionfish, and there's a negative correlation between
44 lionfish numbers and red snapper.

45
46 Whether that's causative or not, we're still exploring, but I
47 think that a real advantage is -- Joe, you mentioned about
48 making the way that these actually become useful or fully

1 incorporated is you use them, and so I think we're at that
2 middle stage now, where clearly some of these models have been
3 utilized to inform parameters in the assessments, and I think,
4 into the future -- Currently, there's a lot of discussion on the
5 West Florida Shelf about interaction between groupers and red
6 snapper.

7
8 Part of the story needs to be the empirical data about what the
9 actual abundances are, and not the estimated biomass, but
10 actually the abundance from video surveys or other fishery-
11 independent means, but this is a prime question for what are the
12 species interactions and the competition between those and how -
13 - Maybe you don't look at the full suite of reef fishes, but you
14 at least look at those three major fisheries and how rebuilding
15 red snapper on the West Florida Shelf -- What are the tradeoffs
16 between that species and the other two, and I think that's
17 happening. I mean, you can see sort of a natural progression
18 there.

19
20 **CHAIRMAN POWERS:** Thank you. Shannon.

21
22 **DR. CASS-CALAY:** One thing that might be of interest to start
23 thinking about is, if you do intend to bring something like this
24 to a review body, what would the terms of reference for that
25 product look like? What does your report look like, and what are
26 you asked to present? All of our stock assessments come with
27 terms of reference that we meet for the review process, and I
28 don't know what they would look like for a product, and so it
29 might be worth thinking about.

30
31 **DR. CHAGARIS:** There are some terms of reference for model
32 review from the west coast and Northeast that we can draw on for
33 that, and some of them are similar to the stock assessments,
34 because I think they involve some stock-assessment-type
35 reviewers, but some of them are specific.

36
37 One thing to keep in mind too is that I think the criteria for
38 review and what might be considered a valid ecosystem model
39 might -- The bar might be a little bit lower than a stock
40 assessment model, just due to the uncertainties. We will
41 inherit basically all of the uncertainties that a stock
42 assessment would, plus uncertainties in diet and discards, and
43 that's essentially the hill to get over.

44
45 **CHAIRMAN POWERS:** Thank you. Are we about wound-down for the
46 day?

47
48 **SSC MEMBER:** With one comment. Is it at possible to continue

1 this tomorrow, or is this a one-shot deal? Is this it?

2
3 **CHAIRMAN POWERS:** It's certainly possible. Like I said, we are
4 already carrying a couple of things over, but neither one of
5 them will take very much time. The only question I have is
6 we're starting at 8:30, and the first person on the agenda is
7 going to be on the phone from a 7:30 starting point in Texas,
8 and so I'm willing to carry it on, but maybe we would do some of
9 the other things first.

10
11 **SSC MEMBER:** That would be fine, but it's just that I have a
12 million questions and things, and a lot of them are in the
13 weeds, and so we don't need to go there at all, but there are
14 some major questions that I would like to have, but I'm thirty
15 minutes late for an appointment now.

16
17 **CHAIRMAN POWERS:** All right. Well, let's just leave it open and
18 see it goes tomorrow then, if that's acceptable. All right.
19 With that, we will adjourn until tomorrow morning at 8:30.
20 Thank you very much.

21
22 (Whereupon, the meeting recessed on March 13, 2019.)

23
24 - - -

25
26 March 14, 2019

27
28 THURSDAY MORNING SESSION

29
30 - - -

31
32 The Standing & Special Reef Fish, Mackerel, Shrimp, and
33 Socioeconomic Scientific and Statistical Committees of the Gulf
34 of Mexico Fishery Management Council reconvened at the Gulf
35 Council Office on Thursday morning, March 14, 2019, and was
36 called to order by Chairman Joe Powers.

37
38 **CHAIRMAN POWERS:** We have a couple of items. First off, the
39 sign-up sheet, if you will pass this around. Also, who is on
40 the webinar that needs voice identification that wasn't here
41 yesterday?

42
43 **MS. SCHIAFFO:** Doug Gregory, Andrew Ropicki, Tom Shirley, and
44 William Cagle and Rick Hart are on.

45
46 **CHAIRMAN POWERS:** Do they need to do the voice identification?

47
48 **MR. RINDONE:** The last three, yes, and so Tom Shirley, Rick

1 Hart, and William Cagle.

2
3 **CHAIRMAN POWERS:** For the ones that weren't on yesterday, we
4 need a voice identification for Rick Hart. Can you just say,
5 hello, I'm Rick Hart?

6
7 **DR. RICK HART:** Hello, Rick Hart, National Marine Fisheries
8 Service.

9
10 **CHAIRMAN POWERS:** All right. Peyton Cagle.

11
12 **MR. PEYTON CAGLE:** Peyton Cagle, Louisiana Department of
13 Wildlife and Fisheries.

14
15 **CHAIRMAN POWERS:** Great. Tom Shirley.

16
17 **DR. THOMAS SHIRLEY:** Tom Shirley, retired from the University of
18 Alaska and Texas A&M.

19
20 **CHAIRMAN POWERS:** Okay. In terms of the agenda, we had a couple
21 of items left over from yesterday, but I want to -- These were
22 Items XI and XII, and the XI says an hour-and-a-half, and it's
23 not going to take that, and so both of those XI and XII are
24 fairly short, and so what I would like to do -- Because the
25 Items XIII and XIV are presentations done over the webinar, and
26 the people, like Rick Hart, got up another hour earlier than us,
27 in order to do this, and I would like to keep on the same
28 schedule for those two presentations, and then we'll come back
29 to Items XI and XII.

30
31 Even so, I don't think we're going to have any problem finishing
32 on time today, and so let's go to Rick and set up for the
33 presentation for the shrimp, and so this is Item XIII, stock
34 status review, and there are three different documents that are
35 in the document file. Rick, take it away.

36
37 **STOCK STATUS REVIEW OF GULF OF MEXICO SHRIMP SPECIES**

38
39 **DR. HART:** Thank you. I will wait for my presentation to load.
40 I'm going to go through the stock assessments, and I'm going to
41 ask to have the slides advanced for me, instead of me taking
42 control of the presentation.

43
44 This is just an update for the Gulf of Mexico shrimp stocks,
45 brown, pink, and white, using our same Stock Synthesis Model,
46 and so nothing has really changed on that at this point.

47
48 **MS. SCHIAFFO:** I'm still waiting on it to load, Rick. Give me a

1 minute.

2
3 **DR. HART:** Okay. I had hoped to be at the SSC meeting, but just
4 scheduling conflicts, and I also have here, because I wanted to
5 her introduce her, but we have a new stock assessment scientist,
6 Dr. Michelle Masi, who started last fall, and so she's going to
7 be working on the stock assessments from here on out, and so
8 Michelle is here in my office with me. She will be attending
9 the AP meeting and the council meeting next month as well.

10
11 **DR. MICHELLE MASI:** Hi, everyone.

12
13 **DR. HART:** Michelle has a strong background in stock
14 assessments, and I think she'll really be a good addition to our
15 team here.

16
17 As I said, this is an update for the assessments for the 2017
18 fishing year. Normally, we would have given this presentation
19 probably in January, but, due to the shutdown and other things,
20 it's a little bit late.

21
22 I am going to go through each of the stocks, and I'm going to
23 talk about pink shrimp first and then brown and then white
24 shrimp. As most of you know, the stock assessments are done
25 individually, and pink shrimp uses data from Stat Zones 1
26 through 11, brown 7 through 21, and white shrimp is 7 through
27 21. This is just a map of the stat zones, if you're not too
28 familiar with that.

29
30 For the model inputs for the pink shrimp, we use Gulf of Mexico
31 monthly catch in pounds of tails 1984 through 2017. We use
32 monthly catch by size categories, eleven size bins, 1984 to 2017
33 monthly catch rates, CPUEs, from 1984 to 2017. For SEAMAP, we
34 use the summer and the fall survey, and, in those surveys, we
35 use the catch by size in the CPUE indices, both nominal CPUE and
36 the delta log normal CPUE.

37
38 For the brown shrimp, we use similar data as the pinks. We use
39 monthly catch, catch by size, catch rate, and we also use
40 Louisiana's monthly shrimp trawls, and we use the western
41 subset, and, from those data, we use the catch by size and their
42 delta log normal CPUE index, and so we always are very grateful
43 and thankful that Louisiana provides the shrimp trawl data for
44 us. We also use, in the brown model, the SEAMAP summer and fall
45 catch by size and CPUE indices.

46
47 For the white shrimp, it's the same parameters as the brown
48 shrimp model. It's monthly catch, catch by size, CPUEs, and we

1 also use Louisiana's trawl surveys and the SEAMAP summer and
2 fall surveys.

3
4 For the pink shrimp model, we fit the catch rates and size
5 composition, as well as estimates of selectivity, and we
6 generate a spawning biomass and fishing mortality estimates.
7 This is just showing the fit to the CPUE, and the model fits
8 well, as you can see by the figure. These are the survey fits
9 for the summer and the fall survey. The SEAMAP survey, with the
10 Plot A on the left, is the summer and fall survey, and the fall
11 survey is Plot B on the right.

12
13 This is just a fit to the size comp data for the commercial
14 fishery, and the fits -- It's still a pretty good fit to those
15 data, and the size comp fits for the summer and the fall SEAMAP
16 surveys.

17
18 For pink shrimp, spawning stock biomass, MSY, and FMSY
19 estimates, we modeled that the pink shrimp spawn and recruit
20 throughout the year, and we modeled these parameters on a
21 continuous basis, and so what we do is we derive an annual SSB
22 MSY by multiplying that terminal benchmark year by twelve, and
23 this gives us an annual spawning stock biomass MSY of about 23.6
24 million pounds of tails and an FMSY of 1.35 per year.

25
26 The meat and potatoes of the assessment is that spawning stock
27 biomass -- It did decrease a little bit this last run, but it
28 still is much higher than the MSY estimate, and we're digging
29 into the model and starting to look at seeing what's going on
30 with the fishery and why the spawning biomass seems to be
31 decreasing for the second time in a row, and so we're working on
32 that as we speak. This is the F estimate, and fishing mortality
33 has increased in the last few years, and so that's concurrent
34 with the decrease in spawning biomass.

35
36 This is just landings and catch for shrimp, and this is pink
37 shrimp total landings through the whole Gulf and not just Stat
38 Zones 1 through 11 and then offshore CPUE, and so you can see
39 the catch rate has gone up this last year.

40
41 Now we're moving into the brown shrimp model, and it will be the
42 same format as the pink shrimp, and I will just report on
43 spawning biomass and fishing mortality rates. This is fits to
44 the CPUE and two fits for the inshore and the offshore fleet.
45 The inshore is Panel A on the top, and the offshore fleet is on
46 Panel B on the bottom, with the Q fits.

47
48 This is a fit to the Louisiana CPUE indices, and it's doing a

1 pretty good job. There are some high points on there that the
2 model is having a hard time reaching out to those higher, almost
3 outlier, points, and those are monthly CPUEs, by the way.

4
5 This is the SEAMAP summer and fall survey fits to the delta log
6 normal index, and the fits on that for the summer is in Panel A
7 on the top, and the fall survey is on Panel B on the lower
8 figure, and the model is fitting those pretty well. Fits to the
9 size comp, the size comp is really fitting really well in the
10 model. Offshore is on Panel A, and the inshore is on Panel B.
11 This the size comp fit to the Louisiana survey, and it's still a
12 good fit to those data. This is the size comp fit to the SEAMAP
13 survey, and the fits are still pretty good for those, summer and
14 fall surveys.

15
16 The brown shrimp model is parameterized a little different than
17 the pink and the white. Rick Methot and I worked on this model,
18 and it's an annual model, and MSY is equal to about six-million
19 pounds of tails, and the FMSY is at 9.12.

20
21 This is spawning stock biomass, and it decreased, similar to the
22 pink shrimp stock, and we're looking at this too, and it's still
23 above the reference point, but we're looking to see what's going
24 on here with the brown shrimp spawning stock biomass.

25
26 We can see that fishing mortality is greatly increased in the
27 last few years, and so that's concurrent with the spawning stock
28 biomass decrease in the last few years as well. Landings
29 increased a little bit last year, and the CPUE as well, and it's
30 some of the higher catch rates that we've seen in the history of
31 the assessment runs, at least 1984 through 2017.

32
33 The white shrimp model, I am going to show catch rate fits to
34 size comp fits, just like we looked at with the brown and the
35 pink, and then I will report biomass and mortality, fishing
36 mortality.

37
38 This is the CPUE fits. The model is fitting the monthly catch
39 rates really well. Louisiana's survey, the model fit to that
40 catch rate, it's fitting pretty well, and there are some high
41 points, again, that it's not able to reach up there and grab,
42 but, overall, it's a pretty good fit.

43
44 This is the SEAMAP fits for the summer and the fall, and it's a
45 pretty good fit on the summer panel, and that's on the top
46 figure. There's a couple of high points that it hasn't hit a
47 couple of years ago, but, overall, it's a pretty good fit for
48 the fall. There is some lower points that it hasn't hit, and so

1 we're seeing -- It looks like a decrease in that fall CPUE this
2 last year as well.

3
4 This is the fit of the white shrimp to the size comp fits, and
5 it's a pretty good fit overall, and a really good fit to the
6 Louisiana size comp fits. This is just the size comp fits to
7 the summer and fall SEAMAP CPUEs, and Panel A, the top panel, is
8 the summer, and the lower panel, Panel B, is the fall CPUE for
9 SEAMAP fits, and it's good fits overall for both of those
10 surveys. For spawning stock biomass and FMSY, spawning stock
11 biomass MSY is at 365.6 million pounds of tails, and F is at
12 3.48.

13
14 This is spawning stock biomass estimates for this year, and it
15 was at 643-million pounds, and it increased a little bit from
16 last year, and so that had been having a downward trend for the
17 last three assessment runs, but, this year, it went up a little
18 bit. That F also had been increasing, and that declined a
19 little bit this year as well. White shrimp landings and catch
20 rates, landings were about the same as last year, a little bit
21 lower, and CPUE -- This is for just the offshore fleet and
22 offshore landings.

23
24 In conclusion, all three stocks are healthy and are above the
25 reference points. They are not overfished or undergoing
26 overfishing. That being said, the pink and the brown shrimp
27 spawning stock biomass has declined the last couple of years,
28 and so we're really looking at that, and so there will be more
29 to come on that. For pink, the spawning stock biomass was at
30 62.8 million pounds, and brown was at 26.8 million pounds, and
31 white shrimp at 643 million pounds. The mortality rates for
32 brown, pink, and white, pink was at 0.34, brown was at 1.73, and
33 white at 1.58.

34
35 With that, I would just like to thank everyone that has helped
36 on this model, especially Dr. Methot and Dr. Nance, who I think
37 is there today, probably for a while, if he's not going to be
38 able to fly home on Southwest. Also, James Primrose and Joanne
39 Williams here at the Galveston Lab for helping with the maps and
40 the data compilation, and, of course, Louisiana Wildlife and
41 Fisheries. Joe West has been invaluable in helping me with the
42 Louisiana data, and then the SEAMAP folks in Pascagoula, and,
43 most importantly as well, is the commercial shrimp fishermen in
44 the Gulf of Mexico, and so, with that, I am open for questions.
45 Any questions thus far?

46
47 **CHAIRMAN POWERS:** Thank you. One thing I noticed, and you had
48 noted it too, is, with all three of the stocks, there has been a

1 general decline in biomass over the last decade and a general
2 increase in F , and, the way I looked at the results, there was
3 also -- The CPUE didn't really have a trend over the last
4 decade, and so that's one of the questions I have, but I think
5 it would be best to do one stock at a time, in terms of our
6 questions, and so we can kind of focus that, and so let's begin
7 with the pink shrimp. Will.

8
9 **DR. PATTERSON:** Before we go one-by-one, I am curious, since you
10 just mentioned these trends that are common among them. Rick, I
11 can't remember from the last time we looked at this, but you
12 have very different estimates of FMSY for the three different
13 stocks, yet they have life histories that are pretty similar to
14 one another. Can you remind us why that is? What came out of
15 the last modeling exercise to explain that?

16
17 **DR. HART:** Well, they are different stocks, and the fishing
18 patterns are different. Pink shrimp is probably really more
19 environmentally driven, but that's -- Everyone seems to try to
20 get into lumping the shrimp, but they are different species, and
21 they have different life histories, and so it's intuitive that
22 they have different patterns and reference points as well. Jim,
23 you always have a good thought on that too, Dr. Nance, if you
24 want to chime in as well, but they are different critters.

25
26 **DR. PATTERSON:** Does it have anything to do with when the
27 fisheries are prosecuted, like what life stages, and whether
28 there is a fishery for bait shrimp at young stages versus
29 fishing on adult biomass?

30
31 **DR. HART:** The brown shrimp in Louisiana's fishery is different.
32 They tend to go target the smaller stages of the animal at
33 different times of the year. Texas seems to try to -- They have
34 the closure, and they try to harvest more of the larger shrimp,
35 and so, yes, there is definitely different fishing patterns as
36 well as life history.

37
38 **DR. NANCE:** I will chime in for a second, also. If you look at
39 brown, it's prosecuted way offshore, really, for the adults, and
40 white shrimp is a real nearshore species, and so inshore and
41 nearshore, and that's why, for white shrimp, it's really looked
42 at -- There's not a lot of difference between that inshore and
43 nearshore prosecution of the fishery, and so, as a model, it's
44 just one stock that is looked at with the fishing patterns.

45
46 With brown shrimp, we're able to actually divide it into an
47 inshore fishery and then an offshore fishery, because it's
48 pretty far out, and so there's a lot of difference between those

1 two. That's why I think you're seeing a difference between the
2 brown and the white in some of the different things.

3
4 The similarity is though, if you look at white and brown, the
5 CPUEs are still really good. I mean, back in the 1960s and
6 1970s and early 1980s, you had some pretty low catch per unit of
7 effort. Now, with both brown and white, you are getting CPUEs
8 in the thousands of pounds per day fished, which is still good,
9 and I noticed that both of those were still in a real high catch
10 per unit of effort, and so that's good for the fishery, in the
11 fact that you can have as much catch with lower effort, and it
12 allows a lot of those boats to still stay in the fishery.

13
14 I do have one question, Rick, if you don't mind, Joe, but, from
15 an environmental standpoint, I know we've always been trying to
16 put environmental data into the models, and has there been any
17 progress into that for pink or brown, and that may explain some
18 of this.

19
20 **DR. HART:** Yes, there has been. We've been working with
21 Jennifer Leo, Dr. Leo, here at the lab, in the Fisheries Ecology
22 Branch, and she has developed a juvenile abundance indices, and
23 we have -- I have worked with Rick Methot and Jen, and we've got
24 a brown shrimp model with that in it, with that index in it, as
25 a survey, and so the problem with that is it only goes through,
26 I think, 2015 or 2016, just due to funding issues and not being
27 able to continue that, but it does look promising, and so I
28 didn't present that here.

29
30 Michelle is going to be working on that as well and with the
31 pink shrimp, and so she's going to really be concentrating on
32 the assessments, and she's an ecosystem modeler as well and has
33 a good, strong background in that, and so she's going to -- I am
34 hopeful that she will move that forward, and so yes.

35
36 **DR. NANCE:** Thank you.

37
38 **CHAIRMAN POWERS:** Thank you. My idea of doing it one stock at a
39 time, I'm not sure if we're -- I made the comment previously
40 about all three stocks show a decline, more or less a decline,
41 over the last decade, in biomass and an increase, obviously, in
42 F, but, while Jim was answering his question, I looked at the
43 actual documents, and the last graph of each one of the
44 documents shows the recruitment, and it's really the recruitment
45 that's going down over the last decade, and so that's what's
46 driving the ups and downs at the moment. I guess my question is
47 has there been any discussion about why that recruitment is
48 going down?

1
2 **DR. HART:** I would have to say, at this point, no, but, I mean,
3 we are -- It's not something we have really looked at yet.
4
5 **CHAIRMAN POWERS:** I'm sorry, but I didn't hear that.
6
7 **DR. HART:** If you look at white shrimp, and I'm looking at white
8 shrimp, since 2010, it's gone up and down, and I don't really
9 see a trend there. Which stock were you looking at, Mr.
10 Chairman, for recruitment?
11
12 **CHAIRMAN POWERS:** All right. Brown.
13
14 **DR. HART:** Brown shrimp has gone down. It went up a little bit
15 this year.
16
17 **CHAIRMAN POWERS:** If you look at the brown shrimp assessment --
18
19 **DR. HART:** It has gone down in the last -- Well, 2015, 2016, and
20 2017.
21
22 **CHAIRMAN POWERS:** If you look at --
23
24 **DR. HART:** It's coming down from a high, but, yes, I see what
25 you're saying. In the last few years, it has definitely gone
26 down and went back up.
27
28 **CHAIRMAN POWERS:** All right. For the brown shrimp assessment,
29 the last page of this document, basically what I'm saying is
30 there is -- Over the last decade or so, you would look at that
31 and say that there is a decreasing trend. Because this is
32 recruitment, presumably that's what is driving the trends in
33 abundance, or biomass, and I was just -- There are similar sorts
34 of results for both the white and the pink. Will.
35
36 **DR. PATTERSON:** There is no recruitment index here, and so it's
37 seeing a lower CPUE in the indices from the SEAMAP, and it's
38 putting it in lower recruitment. I don't think they have any
39 information to inform independently that recruitment inshore is
40 going down or up.
41
42 **DR. HART:** That's right, and Michelle did some sensitivity runs,
43 and when -- Well, I will let her speak.
44
45 **DR. MASI:** I did a couple of sensitivity runs with this, because
46 we did note that brown was declining.
47
48 **CHAIRMAN POWERS:** I'm sorry, but we can't hear you.

1
2 **DR. MASI:** I did a couple of sensitivity runs on this, because
3 we did note that the brown shrimp was declining before this
4 meeting, and so one of the things that I did was I actually
5 turned off the fishery CPUE, and so the inshore and offshore
6 fleet, and, by doing that, the spawning stock biomass is
7 actually not declining anymore, or it still sort of has a
8 declining trend, but it's much higher than it was with leaving
9 them on.

10
11 I did note that this is largely driven by the SEAMAP surveys,
12 and so you can see that they are declining, but I think it's
13 something to note, that, with the changes in the fishery over
14 time, perhaps there is some signal coming from that, and it's
15 linking that in the model, and so it's definitely something that
16 we're looking at and something that we're going to focus on and
17 hopefully have some answer for the AP meeting, and maybe even at
18 the council meeting.

19
20 **CHAIRMAN POWERS:** Jim.

21
22 **DR. NANCE:** Does the Louisiana inshore surveys have any effect
23 on that, because I think that would be closer to the recruitment
24 stage than the SEAMAP data.

25
26 **DR. HART:** Yes, and we haven't really looked at that, as far as
27 a sensitivity run on that yet, but, yes, we will, but you're
28 right, and I would agree. I think that is informing the model
29 more than the SEAMAP for recruitment.

30
31 **CHAIRMAN POWERS:** Will.

32
33 **DR. PATTERSON:** Rick, you mentioned that you have, I think it
34 was for brown shrimp, the recruitment index that goes through
35 2016, and you did some sensitivities trying to determine what
36 effect that might have on model estimates, but I wonder if you
37 guys have just fit like climate signals.

38
39 I think, at one time, Kenny Rose was looking at freshwater input
40 and looking at other density-independent factors that may affect
41 shrimp recruitment in Louisiana, and I'm wondering if you guys
42 have looked at that independent of just using an index of
43 recruitment.

44
45 **DR. HART:** Not yet, no. That being said, that is on the plan.
46 We started with Jen Leo's brown shrimp index, and so Michelle
47 will be investigating that further.

1 **DR. MASI:** Will, can you just repeat what it was that Ken Rose
2 was looking at, so I can look into it?
3
4 **DR. PATTERSON:** I could be totally misremembering, but I thought
5 that he had a graduate student that was looking at freshwater
6 input in Louisiana and trying to predict recruitment to forecast
7 offshore yields, and, again, I could have just dreamed that up,
8 but I thought I remembered that they were doing that.
9
10 **DR. MASI:** Thank you.
11
12 **CHAIRMAN POWERS:** Thank you. Maybe Jim, remind me of this. In
13 the SS 3, what's the stock-recruitment sort of mechanism that's
14 used there? Rick, let me ask you that question. In the SS 3
15 application of these things, what sort of stock-recruitment
16 mechanism are you using?
17
18 **DR. HART:** It's a Beverton-Holt.
19
20 **CHAIRMAN POWERS:** Okay, and you're actually fitting the
21 parameters for it?
22
23 **DR. HART:** Yes.
24
25 **CHAIRMAN POWERS:** All right. Thank you. Are there other
26 questions? Dave.
27
28 **DR. CHAGARIS:** Thank you. This is kind of following up on what
29 Will alluded to, and, while we were talking about the declines
30 in recruitment and spawning stock biomass, what I see is all
31 three of these species have a similar pattern beginning in 2005,
32 where you get an increase, and it looks like maybe the
33 recruitment and biomass is declining back to the level that was
34 experienced two decades prior to that, and so that, again, might
35 indicate that there is some broader, system-wide environmental
36 driver that could be affecting the productivity of this system,
37 since all three species are experiencing it, and it's even
38 showing up in the SEAMAP indices as well, and so I think that
39 that might be definitely worthwhile to explore that further.
40
41 **DR. HART:** I would agree with that.
42
43 **DR. PATTERSON:** It may be -- If you look back in time, you don't
44 see -- Like, if it's a ten-year pattern, you don't see anything
45 further back in time, but it may be that the fishery effort was
46 so robust back in the past that that density-independent stuff
47 just didn't play out, because the spawning stock biomass was
48 lower then.

1
2 **CHAIRMAN POWERS:** All right. Any other questions?
3
4 **MR. BLANCHET:** If you go in the presentation, back a couple of
5 slides, there was a list of the various SSBs, and you had a
6 pink, a brown, and a white SSB at MSY, and --
7
8 **CHAIRMAN POWERS:** It's almost to the end, Charlotte.
9
10 **MR. BLANCHET:** Yes, and that white one there is just such a
11 different scale than the pink and brown, and I understand that
12 what we're looking at here is three different assessments, but,
13 if we really had a billion pounds of white shrimp in the Gulf of
14 Mexico, I don't think that we would be talking about this in the
15 same sense. It just does not make sense to me how -- I
16 understand this is just purely a scale problem, but, just from a
17 perspective, I think that is something that we need to work on,
18 and I've mentioned this before.
19
20 The other thing is we do have, in Louisiana, a pretty good set
21 of indices for those brown and white, and we would be more than
22 happy to work with Rick, or anybody else over there in
23 Galveston, if you want to sit down sometime and go through some
24 of this information and see what we can come up with to get
25 better indices of abundance, recruitment indices, disappearance,
26 whatever we want to work on to do a better job of characterizing
27 at least those two western stocks.
28
29 **DR. HART:** Harry, that would be great. I would welcome that.
30 As always, I have enjoyed working with you guys, and I
31 appreciate the data sharing, and we would be ecstatic to get
32 those from you.
33
34 Also, this assessment -- I think they were finalized in 2012 or
35 2013, and so we've been doing updates, and I do think it's
36 probably time for a total revamp and re-look at the whole model
37 inputs, and so that's something that we need to consider, is
38 getting together again, with maybe another workshop, and
39 updating these models.
40
41 **MR. BLANCHET:** Let us know if you want to play.
42
43 **DR. HART:** We will. I will give Michelle your contact
44 information, and she may be getting ahold of you, Harry, if that
45 works for you.
46
47 **MR. BLANCHET:** Sure, and Peyton also.
48

1 **CHAIRMAN POWERS:** Thank you. Sean.
2
3 **DR. POWERS:** Brown shrimp calculations for F were very different
4 than the pink and white, and can you go over -- You said you
5 would -- Rick worked on that, and can you tell us what's
6 different about those calculations for F? You don't seem to be
7 multiplying out the brown, and the model seems to solve for the
8 annual.
9
10 **DR. HART:** The brown model is an annual model with seasons,
11 where the pink and the white is a monthly model, where we have
12 to -- Stock Synthesis is thinking, if you would, that each of
13 the months in the pink and the white models are years, and so we
14 kind of have to trick it into modeling those as years, and so
15 that's why we sum up the monthly Fs, whereas the brown model,
16 just the nature of the data, it works better to have it as an
17 annual model with seasons, instead of it being a monthly model,
18 and so that's probably where some of those differences in the F
19 calculations become apparent.
20
21 **DR. POWERS:** I know we had this conversation last time we
22 talked, and so does this also affect the spawning stock biomass?
23 Are you essentially adding up all twelve to solve for -- So
24 that's probably why the pink and the white might be inflated
25 numbers?
26
27 **DR. HART:** I guess it could be considered that. It's solving as
28 a monthly, and so it's a summation of the twelve months.
29
30 **DR. POWERS:** But you have some biomass that is obviously
31 carrying over, and you're double-counting some of that biomass,
32 a lot of the biomass, but you don't have that issue with the
33 brown any longer.
34
35 **DR. HART:** Correct.
36
37 **CHAIRMAN POWERS:** Thank you. That was helpful. John.
38
39 **MR. MARESKA:** My question is related to the economics. Was
40 there any investigation into the ex-vessel prices? For brown
41 shrimp, the CPUEs, the landings, are down, but, for the other
42 two species, landings is up and catch is up, and so is there any
43 preference for the whites or the pinks that is causing a change
44 in fishermen behavior that they are not bringing browns back?
45
46 **DR. HART:** I can't speak to that, but I don't believe that is
47 the case though, from my knowledge of the fishery, that they're
48 not bringing in the browns. I don't know what the price

1 differential is right now, and I, admittedly, haven't looked at
2 that real recently, and I don't think there is a large dichotomy
3 between the prices of them, but we don't have any economics in
4 the model, which would be nice, but, at this point, we do not
5 have that.

6

7 **CHAIRMAN POWERS:** Kari.

8

9 **DR. MACLAUHLIN-BUCK:** On the social side, there have been, in
10 the past few years, some issues with being able to find crew,
11 because some of these fleets are really dependent on crew,
12 especially their migrant crew, and so I think, in the southern
13 part of Texas, they have, in some cases, not been going out
14 quite as much because they don't have the crew sometimes.

15

16 **CHAIRMAN POWERS:** Thank you.

17

18 **DR. HART:** The AP would be the ones that really would be able to
19 answer that question, better than I.

20

21 **CHAIRMAN POWERS:** Thank you. All right. This was a
22 presentation with discussion, and I think there's a number of
23 things that we're suggesting that might want to be looked at.
24 In terms of our scope of work and what we need to do, we don't
25 need any particular motion for this, and just the record of the
26 discussion, I think, has been helpful in providing some feedback
27 to this. Are there any other discussion points for these?

28

29 **DR. HART:** Mr. Chairman, in the past, I believe you have voted
30 whether to accept it or not accept the update.

31

32 **CHAIRMAN POWERS:** In the past what? Excuse me. I didn't hear
33 it. Can you repeat that, please?

34

35 **DR. HART:** In the past, I believe you have voted to either
36 accept or not accept the update assessment. Am I remembering
37 that correctly?

38

39 **CHAIRMAN POWERS:** Ryan.

40

41 **MR. RINDONE:** There is lots of affirmative head-nodding going on
42 around the SSC, and so, if that's something that this body wants
43 to do, then that's fine, but we weren't looking for a motion, in
44 particular, from you guys in response to this. This was
45 initially informative, and so it's you all's pleasure.

46

47 **CHAIRMAN POWERS:** All right. Sean.

48

1 **DR. POWERS:** We have, in the past, made a motion that it's best
2 available science, but I'm not sure if we need to do that or
3 not.
4
5 **DR. PATTERSON:** That sounds like a motion.
6
7 **DR. POWERS:** Okay. **The SSC moves that we accept the brown,**
8 **pink, and white shrimp assessments, the 2018 update, as best**
9 **available science.**
10
11 **CHAIRMAN POWERS:** Thank you. Is there a second?
12
13 **DR. NANCE:** I will second that, Joe.
14
15 **CHAIRMAN POWERS:** All right. Second by Jim Nance.
16
17 **DR. FREEMAN:** It sound say 2017.
18
19 **DR. NANCE:** The assessment was created in 2018, and it's using
20 2017 data.
21
22 **DR. HART:** To try to keep it straight in my head, I know that
23 it's the 2017 fishing year.
24
25 **DR. POWERS:** Can you add "Gulf of Mexico" as well?
26
27 **MR. BLANCHET:** My suggestion would be to take "2017" and put
28 that after "assessment updates" and say "shrimp assessment
29 updates through 2017".
30
31 **DR. POWERS:** That's fine.
32
33 **CHAIRMAN POWERS:** Thank you. Any further discussion on this?
34 **All those in favor, say aye; all those opposed.** Also, there are
35 a number of people on the webinar. Let me do it this way, to
36 speed it up. **Is anybody opposed? Say so now.** All right. **The**
37 **motion carries unanimously.** Thank you, Rick, for getting up
38 early.
39
40 **DR. HART:** My pleasure.
41
42 **CHAIRMAN POWERS:** Now we'll move to Item Number XIV, the Review
43 of the Red Snapper MSE Tool, and Dr. Zhang, and are you on?
44
45 **MR. RINDONE:** She's here.
46
47 **CHAIRMAN POWERS:** Great.
48

1 **REVIEW OF RED SNAPPER MANAGEMENT STRATEGY EVALUATION TOOL**

2
3 **DR. YUYING ZHANG:** Hi, everyone. My name is Yuying Zhang, and
4 I'm a qualitative fishery biologist at Florida International
5 University. Two years ago, supported by the NOAA RESTORE Act
6 program, and so my research team is developing a decision
7 support tool for the Gulf of Mexico red snapper. To be more
8 specific, we are going to -- We are developing a management
9 strategy evaluation tool.

10
11 First, I want to introduce my team, and so I am the PI. If you
12 have any questions about this project or any modeling problems
13 or questions, just contact me, and I have really good co-PIs,
14 Dan and Matt, and they are both from the NOAA Southeast
15 Fisheries Science Center, and so they helped me a lot with the
16 model, which my model is based on, and, also, Laura, and she is
17 from Texas Sea Grant, and she is taking the outreach part, and
18 then Dr. Yong Chen and Dr. Luiz Barbieri and Chris and Juan are
19 the contributors to this project.

20
21 Secondly, I just want to thank the funding agency as well as our
22 institutions, who gave us a lot of support, especially the NOAA
23 Southeast Fisheries Science Center, SERO, the Gulf of Mexico
24 Fishery Management Council, and the Florida Fish and Wildlife
25 Conservation Commission. Finally, I want to thank you for
26 giving me this chance to join the SSC meeting.

27
28 Why do we need to develop this tool? This slide gives you a
29 summary, and so, to be brief, we need the feedback and the
30 interaction and the communications, and so that's why we
31 developed this MSE tool, and we want to make the red snapper MSE
32 transparent, to enhance the participation of the stakeholders in
33 the MSE. We hope our tool can play an important role in the
34 fishery management, and I also hope that similar methods can be
35 applied to other species.

36
37 One thing that I want to emphasize is that we are not going to
38 develop a full MSE, but we are going to develop an MSE tool to
39 cover the full MSE, and so, because it is a full MSE, it has a
40 lot of areas, including the biology, fishery, socioeconomics,
41 management, and the performance measures, and so that's why we
42 need your help, and that's also the main reason I'm here.

43
44 The slide you can see, that is where you can help, and so first
45 is in the model structure, because MSE is a computer simulation,
46 and we wanted it to be as close to reality, and so, once this
47 management structure has been determined, it's really hard to --
48 It may last for years, and so we hope it is pre-determined that

1 the model structure is transparent to you and also contains all
2 your comments and suggestions.

3
4 We also want to make sure that our tool obeys the constants of
5 the Magnuson-Stevens Act, and then we -- The interfaces, we also
6 need your input, because, at the beginning, I want to make an
7 executable software, and then I realized that our end users may
8 use -- Some use Mac, and some use PC, and some use iPads or
9 Surface, and so, because your interface is so different, we
10 determined to make this tool web-based.

11
12 Now our plan is want to finish this project in three years, and
13 now one-half is already passed, and so we already have a
14 preliminary model, although some areas are still in debugging,
15 but we hope, in the next year's time, that we have a much more
16 completed tool.

17
18 This is the outline of this presentation. First, I will give
19 you some idea about what is the backstage management of our
20 website, and so I want to introduce our user-friendly interface,
21 and then the details about the model structure, and, to be more
22 specific, I have three main questions that I want to get your
23 comments.

24
25 First, if you see the top, this is the URL of our front page,
26 and this we use a very ordinary style, because we don't have any
27 artists on our team, and so, in this front page, you can see
28 several links, and so, although it looks very common, my
29 programmer has already guaranteed that you whether you use
30 thirteen-inch or fifteen-inch or a 9.7 tablet or a 12.7 tablet,
31 it will work, but your cellphone doesn't work here.

32
33 Later, we will put the introduction videos here, and you can see
34 that we also have some statistics in this webpage. In the lower
35 slide, you can see this is the registration page, and so the
36 registration page -- Right now, we just need you to input your
37 name and what is your password, and so we can guarantee that
38 this is -- We won't see your password, but we don't know whether
39 there is some hackers coming, and so we suggest that you not use
40 the password that is the same as your bank password. After the
41 registration, you will receive an email from the GOM red
42 snapper, and, when you click the link, then you can activate
43 your account.

44
45 For the upper slide, this is what you usually have, and so, when
46 you register, you will see, on the black menu, you will see a
47 guest MSE menu, and, under this menu, we have already saved
48 several management scenarios, and so, actually, this is up, and

1 the guests can see it.
2
3 In the future, for the registered user, we will give you more
4 features to use, but this one is the public one, and so someone
5 may ask why we need to set up a public guest and a registered
6 one, and the reason is because we want -- Just some people want
7 to play with it, and they don't want to tell people who they
8 are, and so, with this, we can guarantee that the common public
9 can have at least some functions to play with.
10
11 In the lower one, you can see that actually that is the
12 registered users that we'll have in the future, and so, at that
13 moment, you can see several -- On the right side, you can see if
14 that scenario is in the public or not, and so the reason we do
15 this is that we try to create a feature to help people to
16 communicate.
17
18 If you think that this scenario is good, you can make it to be
19 public, and then you can share it. You can have some -- In the
20 future, we will have a forward, and, if you forward, you can
21 say, hey, everybody, I have this scenario called the New Test 2,
22 which I think is the best, and then other people -- Even when
23 they log in as common guests, they can see what that is, and so
24 I think this can increase the communication.
25
26 For the registered user, you can select several of these
27 scenarios and compare. Right now, we provide some options, and
28 you can use either the bar plot or the radar plot, and, later, I
29 will introduce this in detail.
30
31 Then we also determined to make two versions, and one is the
32 simple version and the other is the professional version, and
33 the difference is that, for the simple version, we don't
34 consider any mixture between the east and the west, and, also,
35 for the simple version, we don't consider any assessment error,
36 and so that means, in the professional version, we will have
37 this, and, for some of you who don't know what assessment error
38 is, assessment error means we assume there might be some errors
39 in the stock assessment, and then, during our simulation, we
40 will keep calling the stock assessment model, which is in SS 3
41 right now, and we will keep updating the fish life history and
42 the fishery parameters.
43
44 For the back staging, this is some bullets that we will do in
45 the next year. First is we will change the webpages, and, right
46 now, it's http, but, in the future, it will change that to
47 https, and so my programmer is helping me with that.
48

1 Then the second thing we will do in the back staging is,
2 currently, it's a single-thread process, and, in the future, we
3 will make that into a multi-thread process, and so, for the
4 common user, you may not tell the difference, but, in the
5 future, in case we have several users using it at the same time,
6 we don't want this website to be crashing. Then the third one
7 is, right now, we don't have an affiliation, and so, in the
8 future, we may add that, when you register.

9
10 Then we will give the registered users more functions, and we
11 will just hope the user can switch from the professional and the
12 simple version, and, right now, we don't have any discussion
13 board, and, in the future, we will add that, and so this is the
14 first part about the back staging.

15
16 Now I am going to introduce the user-friendly interface, and so,
17 right now, I am using the administrator view to show you that,
18 and that will be what the registered users see in the future.

19
20 First is, for the user, you have to select what stock assessment
21 model your MSE is viewed on, and so, for those administrators,
22 we provide a function that they can always upload the most
23 updated official stock assessment model there, and so you can
24 see this is one that I uploaded, and so you just need to click
25 this plus sign, and I don't know if you can see the interface,
26 and then you just add the file there, and, also, you need to
27 type in what is the biological reference point, for example like
28 the SSB MSY and the FMSY. Also, the system will, right now,
29 just upload that and when that is, and, if you want to see the
30 details, you can also download that.

31
32 This one is one that I already introduced a little bit, and so,
33 for example, if you are a registered user, you just click the
34 MSE, the management, and then it gives you this view, and then
35 you click this plus sign, and you can add different MSE
36 scenarios, or you can also open an existing one and modify it.

37
38 Then the lower slide is the first interface, and you can see
39 what we divide the input into ten steps, and this is the first
40 one, and so, in the first one, you just need to select what is
41 the type of the stock assessment model. You can also upload
42 your own to test, and so you can see, for these ten steps, when
43 you use one of them, the rest are -- They are folded, but then,
44 when you click, you can just expand that.

45
46 This is the second step, and so, here, you need to input what is
47 the time step. Right now, to be consistent with the stock
48 assessment model, it's one year. That's when this projection

1 starts, because the last stock assessment model ends at 2016,
2 and so we use 2016 as the first year of our model. Then we
3 project, and so it has two terms. The short term is three
4 years, and the long term is twenty years, and so the three years
5 is just consistent with the stock assessment model, and the
6 twenty years is because we want to review the stock with a
7 generation, and so that's why we choose twenty.

8
9 Then we have two stocks, east and west, and so far, in this beta
10 version, we don't assume any mixing, and then the last age is
11 twenty, and so that is plus-ages, including older individuals
12 older than age-twenty.

13
14 Then our model projection is not a single projection. Actually,
15 it's stochastic, and so we just have like -- The default is 100
16 iterations, but you can increase that into 1,000, and then the
17 results will be the statistics of the 1,000 simulations, and,
18 also, we considered some observation errors in the initial
19 abundance, and so that's why I put this effective sample size,
20 and so, currently, it's set at 1,000, and, later, I will have
21 two slides to introduce that.

22
23 Then the last one is the ceiling, because we want to guarantee
24 this is randomness, and so that's just we put this feature here,
25 and you can either choose the default, or you just can add your
26 own.

27
28 The lower slide, that is actually from the stock assessment
29 model, but each of these blue values, if you think that's not
30 right, you can modify that. Then we can add some CVs for these
31 observations.

32
33 The third input is the parameters, and that is the biological
34 parameters, including the maturity and the fecundity, and so,
35 actually, there a lot of the parameters in the stock assessment,
36 but we just chose the highly-correlated ones, and, also, it's
37 the same with the initial abundance, and you can change it
38 there, although we don't recommend you to do so.

39
40 Then, for the natural mortality, it's similar, and we used the
41 adjusted natural mortality, the same as the last stock
42 assessment, and we assume every year that the natural mortality
43 is the same. In the future, we plan to make it more complex, so
44 that you can assume every year that the natural mortality is
45 different, or, if you want to simplify that, you can assume
46 every age that the natural mortality is the same. Then the
47 fraction before the spawning is set at 0.5 years.

48

1 For the recruitment, we give a lot of flexibility, and you can
2 either input that as the average median or the lower 25 percent
3 or higher 25 percent from the history, or you can input that as
4 a Beverton-Holt model. Right now, if you want to be consistent
5 with the latest stock assessment model, just use the Beverton-
6 Holt model.

7
8 From this Step 7 -- At the beginning, you see these two values.
9 You see the two values, and one is for the SSB and one is the
10 FMSY, and, actually, these two are from the administrator and
11 what they input when they input the official stock assessment
12 model. What you can do is, in the lower part, you can just
13 apply different harvest control rules, and, so far, we just
14 apply a very simple one, the constant F harvest control rule,
15 and you can move these bars to choose either a higher F or a
16 lower F, and, also, for the implementation error, you can set
17 like a 20 percent CV.

18
19 In Step 8, this step is all allocations, and so the main three
20 ones, and first is the recreational and the commercial, and so
21 the default is 49 and 50, and then the second is the private and
22 the for-hire ratio, and, right now, my co-PI, Matt, he suggested
23 for me to use the ratio of 57.7 versus 42.3. We will use that
24 as the default. Then we also need to input a ratio for the
25 headboat and the charter boats, and so, in the future, we will
26 set the interface for both the east and the west Gulf.

27
28 Also, when you get to the ACT, we add some ACT buffer, and so we
29 recommend zero percent ACT buffer for the commercial sector,
30 because of the IFQ, and, also, we recommend zero to 20 percent
31 buffer for the private sector and also the 20 percent buffer for
32 the for-hire sector. Of course, this is our suggestion, and
33 that's the default. If you don't agree, you can change it by
34 yourself, and so that's why we want to give the user the highest
35 flexibility.

36
37 The lower one is the regulations, and so, right now -- In this
38 slide, in this interface, you have to input what is the minimum
39 size and what is the recreational bag limit and also the release
40 mortality, and so the default value will be the same as the
41 stock assessment model.

42
43 Step 10 is how to determine the length of the fishing season,
44 and so, actually, we used two ways. First is the user can input
45 what the ACT is, and so you just input the catch rate and also
46 the length of the season, and then the ACT will be calculated
47 accordingly. The other way the ACTs are determined are by the
48 coder. These are the two options.

1
2 Then we have several performance measures to help you compare
3 the different MSE scenarios, and so the results are mainly nine
4 plots, and so the first one is the -- plot, and the others are
5 time series, and the time series are the commercial catch,
6 recreational catch, for-hire catch, private catch, the general
7 fishing mortality, the total SSB, the SSB for the east and the
8 west. Right now, the result is still in debugging, and so what
9 I want to focus on is these time series figures.

10
11 This figure is actually interactive, and so, when you move to
12 mouse to there, it will show you what the data is, and it not
13 only shows you the median, but it also shows up the upper and
14 the lower -- The 95 percent confidence interval, and that's
15 every year, and so we will have the model similar to that.

16
17 At the end of the interface, you will see there is a button
18 called "generate a report", and so, when you click that, all
19 your inputs and all the results will be generated in a PDF and
20 automatically saved in your computer, and so this also helps the
21 end users to communicate with each other, and so you can just
22 write your friend or your manager an email and attach this PDF
23 and say, hey, this is the best MSE scenario I could find.

24
25 This is about the interface. Also, we provided some functions
26 for people to compare among the different scenarios, and so, for
27 here, when you click the "MSE comparison", and so this is the
28 lower slide, you can see that, right now, you have several
29 plots, and you can select from three to eight, the scenarios,
30 and, then, actually, you just select "compare", and then you can
31 see in the -- This one is the example we selected, and it would
32 add these, and, also, the result will show you the other
33 results, and some of this component is still in debugging, and
34 our plan --

35
36 Another comparison is -- We call that an advanced comparison,
37 and so, in this one, you just choose one MSE scenario. For
38 most, you make that a constant, but, in two of them, you can
39 change that extensively. For example, you can either change the
40 allocation amount to commercial and the recreational fisheries
41 and let it vary, but, right now, it's 49 versus 51, but you can
42 just let it vary -- Let them vary multiply, and so you can
43 select ten scenarios, and so from like 55 versus 45 or 56 versus
44 44, and so you can have different combinations.

45
46 In other dimensions, you can choose like ten fishing mortality
47 levels. Then, based on this combination, you may have hundreds
48 or thousands of the MSE results, and you can plot the median of

1 the performance measures in this heat map, and then you will
2 know where is the best management scenarios may be located, and
3 then you can target that one.

4
5 Similarly, in the future, this output, we will have some
6 automatic downloads, and so, similar to the previous one, you
7 can download a PDF and communicate with your colleagues. This
8 is the interface.

9
10 In the future, this is what are we going to do, and so we will
11 add more performance measures, and we will improve the MSE
12 comparison, and we will finish those advanced comparisons, and
13 we will create an auto-output function for the comparisons.

14
15 Last time, when I communicated with stakeholders, they really
16 care about what are the landings for different states, and so
17 that's also one of the main reasons I am here, and so the coder
18 determined that we can also add that, and so this link is from
19 Dr. John Froeschke, and he has some suggestions there, and so we
20 can just use his output as our input of our model. Then, later,
21 someone also suggested to me to add a tooltip in the website, so
22 that, in the future, you will know how those parameters -- Where
23 they come from and how they are determined, and so this is about
24 the interface.

25
26 Then we move to the third part, and also the key part of the
27 project, and that is what is the model structure, and so, first
28 I am going to show you our conceptual model structure, and so
29 the first is, as I said, our model is based on the official
30 stock assessment model, and so we would get the initial stock
31 abundance and the stock structure from them, and then we will
32 add the percent errors and some observation errors, and then we
33 will generate the simulated fishery.

34
35 In the fishery, we will have those, and so you can see this is
36 the -- In the fishery, we consider the growth sub-modules,
37 recruitment sub-modules, natural and fishery mortality sub-
38 modules, and the socioeconomic sub-modules, and the reason that
39 I am making it black and white is because I assume some mixture
40 between the east and the west stock.

41
42 There is some other life history and fishing process parameters,
43 and we will add some uncertainties to that, and so in the lower
44 part is the conceptual model structure, what you see on the
45 right side, and that one is the management procedure, and so
46 where you can add the observation errors, if in that year you
47 will have some stock assessment, and so you will call it the SS
48 Model, and you will just run the SS Model and have the output

1 and then use the outputter to update your simulated fishery, and
2 then it will start with this whole loop again.
3
4 In the other slide, that is the uncertainty we will consider,
5 and so you will consider the process error in the environmental
6 variations, and we will have the process error in the structural
7 uncertainty, and we will have some observational errors, because
8 of the partial observation, and we also will assume some
9 implementation errors, because we assume the management may not
10 be enforced 100 percent, and, also, we will have some assessment
11 error, because of the imperfect data sampling for stock
12 assessment.
13
14 For the lower slide, this is the detailed model structure with
15 uncertainty, and so, right now, this model structure is based on
16 a detailed discussion with Dan and Matt and me, but this can be
17 modified in the future with your input.
18
19 First, we just -- According to the stock assessment, the stock
20 status and the harvest control rule are determined in the
21 interface, and we can just get in the short term the fishing
22 level. For example, I used the F equal to 0.0441 per year as an
23 example here.
24
25 Then we apply implementation error, and so this is the equation
26 for that. If you don't like the equations, we plotted it out on
27 the right side, and so you can see that's the distribution. In
28 order to prevent an unrealistic value, we added some
29 limitations, and so the upper limitation is the 1.5 times of the
30 median, and the lower point is 50 percent of the median.
31
32 The second step is we apply some observation errors in the
33 initial abundance and the stock structure, and so, similarly,
34 that's the distribution and the equation. When I introduced the
35 interface, this effective sample size -- I just input one
36 standard there, but I didn't explain in detail what that is, and
37 so that is actually the error you will add in the stock
38 structure, and so, for example, if you assume your effective
39 sample size is 1,000, and please look at the lower slide, and
40 you will see the first sub-figure is the original distribution,
41 but, when you input the 1,000, you can see that every time the
42 new distribution you generate out will be similar to the
43 original one but not exactly the same.
44
45 You may be curious of what if you reduce this effective sample
46 size, and then you can see the first one is the original one,
47 and the lower two is when your effective sample is equal to 100,
48 and so you can see that it has a larger difference than when the

1 effective sample size is 1,000, and, if you keep reducing the
2 effective sample size to be ten, you can see the trend gets even
3 larger, and you will have some more outliers for the elder-aged
4 fish.

5
6 Then the third step is we apply the different life history
7 parameters, and then we add in the process error, and so right
8 now, for example, for the natural mortality, we assume 20
9 percent as the CV, and, for the recruitment, no matter if it's
10 from the average of the history or from the Beverton-Holt model,
11 we apply like 30 percent CV, and that is from the latest stock
12 assessment report.

13
14 For growth, currently, we don't put any process error there, and
15 the figure shows you what the distribution looks like, and then
16 we also have some others. For example, we have the selectivity
17 and the relative fishing mortality, and those are the average
18 from the stock assessment model for the past three years.

19
20 Then, based on the age-specified selectivity, bycatch, retention
21 rate, based on these, which are all borrowed from the stock
22 assessment model, we can project the operating model for three
23 years, and, in this part, we tried to mimic the fishery managers
24 behavior, to derive the OFL, the ABC, ACL, and the ACT.

25
26 Based on a predetermined harvest level, you put it in the
27 harvest control rule, and so what you get is a distribution, and
28 then, right now, we set this ABC as 42.7 quantile of the OFL
29 distribution, and so, here, we assume the ACL is the ABC, and
30 then we split this ACL for the fishery sectors.

31
32 When we determine the ACT according to the ACL, first, we just
33 split it into the commercial and the recreational fisheries, and
34 so, right now, we use the 51 versus 49, and then, for the
35 recreational fisheries, we further split it out into the for-
36 hire and the private, and so that's 42.7 versus 57.7. Then we
37 just add these buffers, which I have already introduced, and so,
38 for the commercial, it's a zero percent buffer, and then, for
39 the recreational for-hire, it's zero to 20 percent. For the
40 private, it's 20 percent.

41
42 As I mentioned, for the ACT for the recreational fishery, you
43 have two ways to implement. Either you just strictly follow
44 the coder, and so, based on this buffer, we will add some
45 implementation error, and so that's 20 percent of the CV, and
46 the other is the user input, as I said, if you just use the
47 catch rate times the length of the recreational season.

48

1 This is the slide that I expect a lot from you, and so this is
2 the carryover and overage from the last year and how that will
3 be determined in the next year, and so, so far, we only consider
4 some overage, and that will be subtracted from the next two
5 years, and so I know this is a very vague assumption, but this
6 is what do we do, and we just set it in the preliminary model to
7 make the model run. After we get a suggestion from you, we will
8 update this a lot.

9
10 Then, in the future, we will keep repeating step one, but skip
11 step two and three if there is no stock assessment in that year,
12 but, like I said, we will have a stock assessment -- We assume
13 that every three years we will have a stock assessment, and
14 then, every three years, we will call it the SS, and then we
15 just regenerate this loop. Then we will do that for the long
16 term. As I said in the interface, the long term right now is
17 twenty years.

18
19 Finally, we will recall everything in the simulation and just
20 generate the performance statistics, and then you can compare
21 them horizontally.

22
23 For the third part, the model structure, in the future, we will
24 evaluate various harvest control rules, and we will add the
25 assessment error in the professional version, and we will test
26 the various stock mixing, and we can also set higher and lower
27 natural mortality, to mimic those regime shifts. Then, again,
28 the carryover provision alternatives to derive an ABC from the
29 OFL, and those will be just updated. Also, we want to know the
30 allocation amounts to the states, so that we can forecast what
31 the landings would be for different states, and our state
32 governments are really interested about that.

33
34 The last one is we hope that there could be some suggestions and
35 discussions, and so the first is whether what we did is
36 consistent with reality, and is what we plan to do necessary, or
37 did we miss anything, and so I want to thank you, in advance.

38
39 **CHAIRMAN POWERS:** Thank you. I have a couple of questions, I
40 think, and then I will open it up for everybody else as well.
41 Generally, when you're doing MSEs, one of the things that always
42 comes up is performance measures, and, basically, different
43 sectors have different interests, and so what the benefit is
44 isn't necessarily how precise MSY is or anything like that, but
45 rather the tradeoffs between one sector versus another and that
46 sort of thing, and so what I'm asking is, and I wasn't real
47 clear from the presentation, how easy is it to look at different
48 tradeoffs between like the recreational sector and the

1 commercial sector or the for-hire versus the private and so on?
2 Have you sort of built that sort of thing into the model
3 structure?

4
5 **DR. ZHANG:** So far, you can see that we can compare the
6 management scenarios horizontally, but, because we are not
7 managers, we try to be neutral, and so, right now, those
8 performance measures are just equally weighted, and so that's
9 why you can see the spider plot.

10
11 Right now, we have less than eight scenarios, and so that's why
12 we only have one spider plot, but, in the future, if you want to
13 incorporate more, you can just add more, and so this result is -
14 - We believe that when people negotiate that they don't have any
15 idea about what they would really gain or lose in the different
16 scenarios, and so that's why we created this, so that people can
17 compare horizontally.

18
19 In the future, for those weights, when those stakeholders
20 determine what the weight is, we can add those weights to
21 different performance measures, so they can see what the
22 tradeoff could be.

23
24 **CHAIRMAN POWERS:** Okay, and, really, my question is not so much
25 how to weight them or anything, but it's just to make sure that
26 you have the proper measures in there to be able to evaluate it,
27 so those individuals could use that as the mechanism to
28 negotiate, and so I get that, generally, you have, but I'm sure
29 you will get further feedback in terms of that sort of thing as
30 well. Any other comments? Jeff.

31
32 **DR. ISELY:** You have a provision in there for subtracting
33 overages, but do you have a provision for adding underages,
34 carryovers?

35
36 **DR. ZHANG:** Yes, and so, right now -- The structure right now I
37 use is I get a lot from the Tuna Commission, because they
38 started MSE early, but, even if they started early, you can see
39 they don't have any conclusions yet, because the MSE is a game
40 of stakeholders, and they keep discussing and discussing, and so
41 the reason that I just threw out a preliminary version is just
42 to encourage people to discuss, and so then, when it's
43 determined, of course we will have the carryover embedded here.
44 This one is just preliminary.

45
46 **CHAIRMAN POWERS:** Thank you. Bob.

47
48 **MR. GILL:** Thank you, Mr. Chairman, and thank you for the

1 presentation. Once this decision tool becomes operational,
2 where will it be housed, which is to say who is going to be
3 responsible for updating it and incorporating changes as they
4 occur, which they will?

5
6 **DR. ZHANG:** Actually, the NOAA RESTORE Act Program has already
7 discussed this with me in detail, and so I think that on the
8 research team that I will be the most stable person, and I just
9 got tenure last year at FIU, and I think I will be there for at
10 least ten years, or even longer, and so we have some short plan
11 for those ten years, and so we may have some leftover budget for
12 this project, and we will try to keep this server under FIU, and
13 so, in the future, if there's any changes that are significant,
14 like a benchmark stock assessment, and if the stock assessment
15 model changes a lot, I will just keep modifying that and make
16 sure it's updated.

17
18 **CHAIRMAN POWERS:** Thank you. Shannon.

19
20 **DR. CASS-CALAY:** Thank you very much. I just wanted to clarify
21 something that may be a question in some people's minds. We had
22 some funding opportunities that asked for the use of a decision
23 support tool, or the creation of one, and so there are actually
24 two decision support tools that you have seen through these
25 presentations, and so this one is more designed to be integrated
26 in an MSE context, and the one you've seen from Nathan Vaughan
27 is just a direct integration of projections to the stock
28 assessment, so we can explore things like allocations, size
29 limits, different fleet designations of effort or catch, but
30 it's not designed to be used for MSE purposes.

31
32 There are two different efforts, and they're for different
33 purposes, but they are both called decision support tools, and
34 they are both in association with the Science Center, and I just
35 wanted to clarify that.

36
37 **CHAIRMAN POWERS:** Thank you. Kari.

38
39 **DR. MACLAUHLIN-BUCK:** I just had a couple of questions about
40 your stakeholder engagement, because it's a goal of the project,
41 and so you had said that you had worked with or communicated
42 with some stakeholders and they were interested in how the
43 states quota will work and you were integrating that, and I know
44 you have some partners with Sea Grant, and my question is how
45 are you communicating with the stakeholders, and are they
46 managers or fishermen or --

47
48 **DR. ZHANG:** First, I outsourced the outreach to Laura, and she

1 helped a lot, and so, every year, we will have two workshops,
2 one in the east Gulf and one in the west Gulf, and so, in
3 January and February, we just completed the two this year, and
4 so Laura contacts the different stakeholders, and so, for every
5 workshop, we have like ten to twenty-five attendees, and most of
6 them are from the commercial and the recreational fisheries,
7 but, like this year, in the New Orleans workshop, they had some
8 people from the state government, and so they gave us a lot of
9 good suggestions.

10
11 For example, I may modify the interface, especially the simple
12 one, according to them. They gave me very detailed suggestions,
13 but the stakeholders include the different people, and so I also
14 wanted to talk with the scientists and the managers, and so
15 that's the reason I am here, to get your opinion.

16
17 **CHAIRMAN POWERS:** Will.

18
19 **DR. PATTERSON:** In some of the other MSE evaluations that are
20 going forward in the region, one of the big things that folks
21 are looking at are environmental factors and density-independent
22 processes that could be affecting recruitment and, therefore,
23 longer-term productivity.

24
25 It seems like this is mostly based on the assessment model as it
26 exists and that perhaps, as far as the strategy evaluation for
27 management, one of the things that I could imagine a council
28 member, or a decision maker, or even just a stakeholder might be
29 most keenly interested in is the tool that allows you to
30 manipulate allocation and look at implications of that.

31
32 I think, while it's handy for a decision maker, or even a
33 stakeholder, to have a tool which they can easily interact with,
34 it's also potentially very dangerous, because, to them, it's a
35 black box, and we didn't see here, and the recommendation
36 yesterday discussing the other decision support tool project
37 that was examined was that the model itself needed to be
38 carefully vetted and examined and poked and prodded and really
39 explored before it perhaps became operational for management
40 advice.

41
42 We have the same issue with this, and it's unclear to me, just
43 from your quick presentation, what are the details of the
44 socioeconomic information that go into that allocation tool,
45 and, when you say the best ratio of commercial to recreational
46 harvest, for example, or allocation, "best" means a lot of
47 things to a lot of people, and, probably to everyone around this
48 table, "best" would mean something different.

1
2 A lot of times, you can't quantify what's best to a given group
3 of stakeholders, because it doesn't have a financial value, and
4 so I think that's a tool that you will have to be very careful
5 with, how it gets distributed, documenting what the information
6 is that's actually going into what -- Even the most empirical
7 information that can go in there, the financial information
8 about the fisheries, even that can be subjective if you utilize
9 the information one way versus another or focus -- You know, in
10 the commercial harvest, you can have dockside value, and you can
11 have the multiplier effects, and there is all kinds of
12 information and ways to approach it that -- I mean, the folks
13 around the room that do economic modeling would all do it
14 probably a little bit differently.

15
16 Anyway, I just think that's probably going to have a great deal
17 of interest, but also potentially can get away from you very
18 quickly, and I would be careful with that aspect.

19
20 **DR. ZHANG:** Thank you. Can I add several things to that? First
21 is the users, and they compare. We just will write down
22 everything of the input, and then we will highlight where they
23 are different from the default value, and so, when people
24 compare, they know what is the difference.

25
26 Second, as you said, the transparency, and so that's what I have
27 already considered, and so, although this webpage is developed
28 under the JavaScript, the call code is written by R. When I
29 first designed this, I was planning to submit it to either like
30 NOAA or the Southeast Fisheries Science Center or another place,
31 and I wrote it in R because most fish scientists can read that,
32 and so I can just publish my source code, and people can help me
33 find the errors, and, also, to increase transparency in my
34 workshops, I keep explaining to every stakeholder what my model
35 structure is.

36
37 Then third is, for the socioeconomic performance, right now, we
38 have also come out to many of the social scientists to ask what
39 is the best equation we can use, and, also, as I said, in the
40 interface, we will add a tooltip, and the tooltip will have
41 details written down of what is the equation and where these
42 references come from, and so that will make people clear what
43 this model is.

44
45 **DR. CASS-CALAY:** To Will's point, and thank you, Yuying. In the
46 ICCAT environment, we've had about three different efforts now
47 to construct MSEs to use to inform management, and, in that
48 process, we found it very useful to set up a technical group who

1 can actually use the model and evaluate the model and make sure
2 the results look correct and run some test scenarios with
3 somewhat known outputs, for example.

4
5 I think that, as we get closer to making this tool operational
6 to use for management purposes, it might be a good idea to think
7 about what sort of technical evaluation needs to -- Essentially
8 to peer review this, just to make sure that it is useful for
9 management, but we are still very willing to continue to
10 collaborate with you on this product, and so you can rely on us
11 to assist you as well.

12
13 **DR. ZHANG:** Thank you.

14
15 **CHAIRMAN POWERS:** Thank you. Luiz.

16
17 **DR. BARBIERI:** Thank you, Mr. Chairman, and thank you, Yuying,
18 for this very thorough overview of the two components. I am
19 mostly interested in your uncertainty, and there was a slide, I
20 think Slide 18, that talked about how to account for the
21 different uncertainties, and, of course, you didn't have time,
22 and we wouldn't want to get too much into the weeds on how each
23 one of these errors can be evaluated, and, yesterday, we had a
24 discussion here about this carryover potential provision that
25 the council is considering, and I think it would be very
26 informative for us to have a tool like this, where we can take
27 into account, for example, implementation error, which was one
28 of the points of discussion yesterday with the carryover.

29
30 How can we account for the imperfect -- The data is going to be
31 imperfect, we know, from whatever surveys, and so we're going to
32 have estimates that have error associated with that, but then,
33 even after you design and implement a management strategy,
34 regulatory or whatever, there will be error, to the degree that
35 that regulation is going to be effective in controlling catch,
36 and so that's what we call implementation error, and it will be
37 very informative for us, I think, as the SSC works with the
38 council in evaluating this carryover provision, to be able to
39 account for different degrees of implementation error
40 specifically, but some of the other errors as well, so we can
41 see to what degree our estimate that is going forward for
42 carryover needs to take into account some of these imperfections
43 in the data.

44
45 **DR. ZHANG:** Can I try to answer this? First, one function of
46 this is we provide some way that you can compare the -- We call
47 that an advanced comparison, and so you see the other slide, the
48 lower-right figure, and so, for example, we can run the

1 sensitivity analysis, and you can apply the implementation
2 errors, to see what the result is, but, as for the carryover,
3 that's in the model structure, and so we hope that can be
4 determined before we publish this tool, and I think, when your
5 amendment gets determined, it will stay there for a couple or
6 three years, and then we can just view the data behind the
7 server and to fix it for a couple of years.

8
9 **CHAIRMAN POWERS:** Thank you. One other question I have is this
10 was publicized as red snapper, and I'm sure that's why you got
11 the funding and so on and so forth, but, when it really comes
12 down to it, developing the operational models, the equations are
13 pretty much the same, and it's just the question of the data and
14 the parameters, and so my question is -- Well, one of the good
15 things that I see about this is it's also developing the
16 necessary bookkeeping that has to go into with an MSE and kind
17 of keeping track of things, and so how easily do you think this
18 would be to adapt to some other species, because that would be
19 very helpful, if you have a generalized tool that you could kind
20 of fit in for other species as well.

21
22 **DR. ZHANG:** At the beginning, my thought is we can try to --
23 Even the name is red snapper, but we can apply the stock
24 assessment model here, and then the projection is based on that
25 stock assessment model. However, because this red snapper is so
26 special, and you will have some carryover, and so that makes
27 this a tool customized for red snapper, but, if we already have
28 complex tools, we can simplify that and just to make it a
29 general version, and that general version can be applied to
30 other species, like tuna or like other species other places, and
31 so the shell --

32
33 As I mentioned, the shell would be pretty similar, but we just
34 need to modify the interface, but there's a core R code that
35 would need to be updated, and so that won't take as much effort
36 as this one, because the first one takes the hardest load, but,
37 the later things, we just can easily just -- I won't say copy,
38 but just modify it a little bit and apply it to other species.

39
40 **CHAIRMAN POWERS:** I sort of noted -- Like I said, the biology,
41 to me, would be pretty adaptable pretty quickly. Other issues,
42 like which sectors to use and the idea of bag limits versus some
43 other sorts of things, wouldn't be applicable to other species,
44 but think about it in those terms as you go ahead, I think, is
45 what my suggestion is. Were there any other comments? Ken.

46
47 **DR. ROBERTS:** Thank you, Mr. Chairman. In looking at the
48 conceptual model that you have, the diagram, you have four sub-

1 models. There was almost nothing in your presentation dealing
2 with -- I think Will addressed this a bit, but of the
3 socioeconomic sub-model, and there is nothing in your
4 presentation on any of that conceptualization that shows things
5 going in and out, and so my question, generally, is what are the
6 components of the sub-model, socioeconomics, that you envision,
7 and where are you going to get the data for those?
8

9 **DR. ZHANG:** Actually, I consulted with the contributor and also
10 some other socioeconomists, and so it's a little bit -- My
11 design is that you have some fixed costs and variable costs, and
12 then you have some dock price times landing minus the costs, and
13 that's a profit that you can get from each fleet, but I checked
14 the socioeconomic part of the data -- It looks like the landings
15 keep increasing, and the price for red snapper is also
16 increasing, and then people told me this may be because we have
17 a lot of imports from Mexico and other places, and so that's why
18 there is no demand and supply curves, and so I am still under
19 discussion with other experts about this, but, so far, we don't
20 have a very good solution, and so, if someone knows people that
21 do research in this area, I would like to contact them.
22

23 **DR. ROBERTS:** Do you have anybody at the universities or the
24 university systems that you are working in that is capable of
25 doing this kind of work?
26

27 **DR. ZHANG:** So far, we don't. I contacted Steve -- at ASU, and
28 he is doing some individual based models, but they don't have
29 any results published yet, and so, so far -- We hope someone can
30 feed us some equation that we can put directly into this model,
31 because I am not a socioeconomist, but, so far, we don't have
32 any publication in this area.
33

34 **CHAIRMAN POWERS:** Thank you. Dave, and I'm trying to finish
35 this up, and so you're going to be the last.
36

37 **DR. CHAGARIS:** Thank you, Mr. Chairman. Implementing all these
38 different management options in a population dynamics framework
39 is obviously challenging, and there is actually two things that
40 I have seen as challenges, and I'm wondering how you address
41 them in your model.
42

43 The first is the interaction between the size and the bag limit,
44 and, oftentimes, you need to know the size of a discarded fish
45 to be able to slide the size limit and have the bag limit change
46 with that, and so that's the first thing, and the second one is
47 effort dynamics, and so, as you expand or contract a fishing
48 season, how does effort or fishing mortality pile up within the

1 fishing season, and then, in your long-term projections, do you
2 allow for effort to change in response to the stock size?

3
4 **DR. ZHANG:** Two questions, and the first is the size and the bag
5 limit, and so the size limit is applied in the projection as the
6 trend of the retention rate, and the second is the bag limit,
7 and this is used as a reference, and so, right now, we have
8 generally estimated a catch rate, and, if you remember, when we
9 determined ACT, we have two options.

10
11 One is input by the user and one is determined by the coder.
12 When it's determined by the user, we use the general catch rate
13 times the length of the season, but, if your bag limit -- Like
14 right now it's two. If you change it to four, then, in the
15 backside, we will have the general catch rate doubled, and so
16 that is how we apply -- I know it's still rough, but that's
17 right now, what we can think at this moment.

18
19 **CHAIRMAN POWERS:** Thank you, and that -- I am cutting off the
20 discussion now. If you have any other questions of Dr. Zhang,
21 then feel free to talk to her.

22
23 **DR. ZHANG:** Yes, and I will stay longer after this meeting.

24
25 **CHAIRMAN POWERS:** Also via email and so on.

26
27 **DR. ZHANG:** Thank you, and I also want to thank John. He gave
28 me a lot of suggestions, and he is a technical monitor for this
29 project.

30
31 **CHAIRMAN POWERS:** Okay. Thank you. We are going to take a ten-
32 minute break, only ten minutes, and then we're going to come
33 back and finish up all business in front of the committee.
34 Thank you.

35
36 (Whereupon, a brief recess was taken.)

37
38 **REVISION OF ABC CONTROL RULE**

39
40 **CHAIRMAN POWERS:** Take your seats, please. We are returning to
41 Agenda Item XI, Revision of the ABC Control Rule. There is a
42 significant amount of time that was set aside for that, but we
43 are not going to need that.

44
45 You will see, in the document here, that this is the control
46 rule that's been accepted, and I'm not going to go into the
47 details of it, and, also on the screen, I would like Charlotte
48 to put I guess it's 11(b), the spreadsheet for P*, and this is

1 sort of reminding us how we got here, and, again, I'm not going
2 to go into the details, but I'm just reminding you of this.

3
4 Basically, the P* has -- In a previous life, Shannon and I did
5 something that we're sorry for forever and ever, and it's
6 basically trying to sort of quantify some qualitative indices
7 and distributing them between a high P* and a low P*, and so
8 this spreadsheet has a number of factors that are addressed, and
9 it has how they're weighted, and, if you go into it and you look
10 at each one, you can kind of backtrack what's going on.

11
12 This is one of the ways that the P* has been addressed, and this
13 also sort of leads into the other document, the 11, if you could
14 switch back to that, and, again, this is looking at it in terms
15 of tiers, and the P* actually builds into this as well, and
16 there has been a number of things that have changed over the
17 years. One is the individual species and what tiers they might
18 be in, and we have also had rather extensive work done on data-
19 poor species.

20
21 There is just a number of things that have changed, and some
22 things have gotten better, and probably some things have gotten
23 worse, and so I think it's inherent that we start revisiting
24 this control rule and the P* spreadsheet, and we're not at a
25 point right now, I think, to discuss much of the details, or any
26 of the details, but I think, more than anything else, I would
27 like to encourage some thoughts about revising these things,
28 and, in the case of the spreadsheet, it isn't necessarily just
29 changing weights or something like that, but it's actually
30 revisiting the whole structure and is it still useful. If it
31 is, do we want to modify it? If it is not, what kind of a
32 substitute should we have?

33
34 I think it's something -- There is no real deadline for this,
35 but I did want to mention it and encourage us to think about
36 looking at it and encourage the Center to think about looking at
37 it, and I have been told by Shannon that they have been thinking
38 about this, and so I will give the floor to Shannon.

39
40 **DR. CASS-CALAY:** Thank you. I think one thing that we've
41 learned about how this particular control rule functions is that
42 it has a kind of perverse effect, where, as we actually have
43 more data limitations in a stock assessment, we tend to fix more
44 parameters, which causes narrower PDFs, which this control rule
45 has no way to actually create a functionally larger buffer from.

46
47 In our work that we have recently done in the Caribbean, we're
48 focusing on actually changing sigma, the variability of that

1 PDF, and so, as you increase your scientific uncertainty, you
2 actually broaden the PDF that results from the stock assessment,
3 and so that's kind of, I think, what Clay and I envision.

4
5 We would be very happy to put together a strawman and another
6 spreadsheet that would allow you to use the control rule, but I
7 wanted to open up an invitation that, if folks want to
8 participate in that process, because there may be other ideas
9 that people have that we can consider, and I would be more than
10 welcome to invite a small group to participate in the
11 development of some alternative control rules.

12
13 **CHAIRMAN POWERS:** Will.

14
15 **DR. PATTERSON:** One potential alternative rule is something that
16 we've discussed and just having a percentage multiplier, and,
17 yesterday, we were talking about SPR and SPR proxies and whether
18 you estimate MSY directly in an assessment, because you can
19 estimate steepness, whether you put an informed prior on it or
20 not, but Joe pointed this out.

21
22 In using an SPR proxy, you are implying a steepness value, if
23 you're using a Beverton-Holt spawner-recruit function in the
24 model. I mean, they go hand-in-hand, and so, in this case, if
25 you impose the sigma, and whether you still had a P*, or you
26 just had a fixed P*, and maybe it just always stays 0.4, but, if
27 you impose a sigma, you are basically imposing a percent
28 difference from the OFL to the ABC, and so why not just develop
29 a very simple rule that's a percent difference?

30
31 **DR. CASS-CALAY:** We would be more than willing to consider that
32 possibility, and so, if you would like to participate in this
33 construction of a strawman proposal to the SSC, I would be more
34 than happy to include you in a conference call.

35
36 **MR. GILL:** He would.

37
38 **CHAIRMAN POWERS:** Luiz is volunteering.

39
40 **DR. BARBIERI:** No, Mr. Chairman, but I am strongly recommending
41 Dr. Will Patterson, a colleague that is very interested in this
42 topic.

43
44 **CHAIRMAN POWERS:** I am interested in it, and I wouldn't mind
45 being kept informed, let's put it that way, because I think it
46 is important, and I think we've all seen some of the frailties
47 of this sort of process. Again, it gets way too much in the
48 weeds to really discuss this at the level of the SSC, and I

1 think that I would encourage that we embark on reviewing this
2 again. Lee.

3
4 **DR. ANDERSON:** On the Mid-Atlantic SSC, we have a P4 that we
5 have stuck, and then we look at the PDF of OFL, and, like, you
6 say, change the parameters on it, and that's what we do, and we
7 don't try to worry about setting a P*. You do it the other way,
8 and I think that it's important to also look at that in the
9 sense of sometimes we look at that as what is a good sigma for
10 the probability distribution function, but part of that thing is
11 the buffer, and, when you pick those things, I would like to
12 know what happens to the size of the buffer as you change that,
13 just in general.

14
15 Now, you pick that, well, I think the sigma of this or a PDF or
16 a P* of that is going to -- Without looking at what it
17 generates, and that doesn't mean I want you to pick one that
18 gets a solution you want, but you ought to have some notion of
19 what you're dealing with, which is the buffer, and that's so it
20 -- I think it's really important to look at the effect on the
21 buffers of whatever thing you pick, whether it's P* or the
22 coefficients or statistics on the probability distribution.

23
24 **CHAIRMAN POWERS:** Thank you. Any other comments?

25
26 **MR. GREGORY:** This is Doug.

27
28 **CHAIRMAN POWERS:** Go ahead, Doug.

29
30 **MR. GREGORY:** I am not familiar with SS 3, as far as how it
31 runs, and I've gotten the impression that it's a complex
32 modeling environment, and I've always been concerned about
33 having to fix so many parameters in order to keep things from
34 blowing up.

35
36 How much of an attempt has been made to try to simplify the
37 modeling environment so that everything doesn't have to be fixed
38 to where there is a small PDF, due to the lack of random
39 variables in the model, and I know all these models are
40 overparameterized, and fishery models always have been, and
41 that's not the issue, but is there some way to address the
42 actual problem, and that is the model not providing realistic
43 PDFs?

44
45 **CHAIRMAN POWERS:** To me, this has always been a big debate,
46 whether to make one big assumption or a bunch of little ones,
47 and that's sort of what we're talking about here. Shannon, do
48 you want to address the question?

1
2 **DR. CASS-CALAY:** Well, you're correct, Doug, that oftentimes the
3 models have -- Basically the SEDAR process and our desire to be
4 as realistic with the biology and as realistic with the
5 fisheries behavior as possible leads to a very complex model,
6 and certainly there is an acknowledgment at the Science Center
7 that we need to spend some time thinking about how to right-
8 size, we're calling it, these models.

9
10 You basically look at the quality of the information that's
11 available to the stock assessment, and you use a parsimonious
12 approach to create a model that captures the major sources of
13 uncertainty, but is robust and doesn't require so many
14 manipulations to produce a robust result, as some of our stock
15 assessments have.

16
17 We just presented some of that concept, and I don't know how
18 long it's going to take us to really study these models and make
19 sure that we have right-sized them, but another effect of the
20 current SEDAR environment is that we tend to come up with one
21 base model, which represents our best scientific understanding,
22 which has very narrow PDFs, and we fix many parameters, because
23 they're not estimable directly.

24
25 Another approach in other regions of the world is to do what's
26 called an uncertainty grid, where you actually take your major
27 uncertainty and you fix the parameters across the range of
28 uncertainty in three or four of the areas of consideration that
29 you have, and so, for example, natural mortality might be one,
30 and steepness might be another, and that results in a suite of
31 tens to hundreds of stock assessment models, and then they're
32 creating a single PDF that represents scientific uncertainty
33 across those, and that's actually the direction that ICCAT has
34 gone in, and it's extremely demanding of the stock assessment
35 process.

36
37 It hasn't made its way into the SEDAR environment yet, because
38 it's just difficult to do, but it's another way that we could go
39 in that would produce more uncertainty, and I think it's
40 probably not the direction we're heading at the moment in the
41 SEDAR environment, but the reality is that our models are always
42 going to underrepresent the scientific uncertainty, and so I
43 think we're just going to have to be parsimonious in how we try
44 to develop stock assessment advice under the time constraints
45 that we have.

46
47 **CHAIRMAN POWERS:** Thank you. Again, that --
48

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

2

3 **CHAIRMAN POWERS:** Go ahead.

4

5 **MR. GREGORY:** Thank you, Shannon, and, given that, the models
6 will never capture the full uncertainty, and I think we all know
7 that, intuitively, and what we're doing seems to be working, for
8 the most part, and we have some exceptions, like amberjack, and
9 so I would hate to see us spend years, like we did before,
10 trying to come up with a new approach that is still going to
11 fall short and eat up our time. That's my only concern about
12 where you wanted to go, Joe, but thank you very much.

13

14 **CHAIRMAN POWERS:** Where I wanted to go?

15

16 **DR. CASS-CALAY:** Well, I think one thing that we are trying to
17 do through the SEDAR process is, if we can create models that
18 have a parsimonious structure, in the sense that they are well-
19 informed by the data that they include, there might be an ability
20 to estimate some parameters if we establish informative priors,
21 and so that's probably the first order of business for SEDAR, is
22 to establish informative priors on some of the parameters that
23 we would like to estimate.

24

25 It's estimation, obviously, with a penalty, if you're outside of
26 the prior, and so it's not free estimation of parameters, but it
27 would also cause -- It would also lead to more realistic PDFs
28 coming out of the stock assessment models, because we would be
29 directly including the uncertainty of that prior estimate into
30 the model procedure. That's probably the first way we can
31 improve our understanding of scientific uncertainty in these
32 models.

33

34 **CHAIRMAN POWERS:** Thank you. Again, to some extent, obviously,
35 this will be an input into the control rule revisions that might
36 begin, but, at this point, we're only really talking about the
37 control rules themselves and just wanting to revisit them, and
38 obviously there's going to be some technical aspects about what
39 you can and can't do, but what we have elicited is there is some
40 inconsistencies the way it is now, and it would be good to
41 address that.

42

43 If there is no other comments, then I will leave it to the
44 Center to kind of establish an agenda or -- Not an agenda, but a
45 schedule about what can and can't be done and that sort of
46 thing, because, at this point, we're not addressing it directly
47 quickly. Okay. Then we're going to move on them to Item XII,
48 Volunteers for the Scamp Data Workshop. Ryan.

1
2 **SELECTION OF SSC VOLUNTEERS FOR SEDAR 68: SCAMP DATA WORKSHOP**
3

4 **MR. RINDONE:** A lot of things got shuffled on the SEDAR
5 schedule, and so, under Other Business, I want to go over some
6 of those scheduling changes with you guys. Scamp took the brunt
7 of the schedule shuffle, but there are a couple of things that
8 we need appointees for for scamp, and one of them is called the
9 Assessment Development Team.

10
11 These individuals will basically be with the assessment from
12 start to finish, and they will help craft a lot of how the
13 workgroups are set up, and they will be involved with
14 discussions. Again, they will be in the data, assessment, and
15 review workshop phases in some capacity or another, and so it is
16 a fair commitment, but it's something that we've talked about
17 doing within the SEDAR process for a long time, for having kind
18 of the -- We'll call it the institutional knowledge of what's
19 gone on through the assessment carried through the entire thing
20 and that burden being carried by more than just the analytical
21 team.

22
23 If we can get a few volunteers for the Assessment Development
24 Team, that would be a good place to start, and then we'll do the
25 data workshop after that.

26
27 **DR. PATTERSON:** I just have a quick question how an Assessment
28 Development Team membership role would differ from serving on a
29 given panel, a given workshop.

30
31 **MR. RINDONE:** Julie Neer is on the webinar, and I will let her
32 be the one to answer that.

33
34 **MS. NEER:** Thanks, Ryan. With the approach of the research
35 track, one of the things that we are changing is who is actually
36 doing the decision-making throughout the process. In the
37 current process of benchmarks, the whole panel sort of gets
38 together and comes up with the consensus recommendations of what
39 to move forward from data to assessment and assessment to
40 review.

41
42 Under the new process that we're trying, it is the Assessment
43 Development Team are the core group of people that ultimately
44 make the decisions on what data to use, what assessment
45 approach, those various things, and so others can serve on the
46 panel for both data and assessment, but it is ultimately these
47 ADT people that are going to say that we're going with this
48 index over this index, with feedback from the rest of the panel.

1
2 It's a change in how we're doing stuff, and the hope is that we
3 will have more consistency throughout the process, having those
4 people be involved from the beginning to the end, as well as the
5 ADT will also be involved in reviewing the review panel
6 recommendations as well as the SSC recommendations for that
7 operational assessment, which is ultimately going to give you
8 guys the management advice at the end of this year-and-a-half to
9 two-year process.

10
11 That is a little bit of a difference, and so, if you are serving
12 on the data workshop, say, but you're not on the ADT, you're
13 coming, and you're involved in all the same discussions, and the
14 makeup of the workshop is probably going to be very similar to
15 what we do now, but it is ultimately those ADT folks that are
16 going to make the decisions on which data to use, and then the
17 assessment stage is ultimately going to be those ADT folks that
18 are putting forward that we're going to model discard mortality
19 this way over this way, and so that's a nuance.

20
21 It's a change in how we're doing it, but we're hoping that it
22 will be a bit more consistent from panel to panel and assessment
23 to assessment. Again, remember this is the first pilot of the
24 research track that we're ever doing, and so that's what we're
25 trying this time around, and I hope that explains it.

26
27 **MR. RINDONE:** Essentially, the ADT is being informed by the
28 data, assessment, and review workshop panels.

29
30 **DR. PATTERSON:** What kind of time commitment would that be for
31 an SSC member?

32
33 **MR. RINDONE:** You're going to be looking at any preliminary
34 sorts of webinars and conference calls before the workshops,
35 participation during the workshops, and then anything that's
36 being followed-up after the fact.

37
38 With a research track, there is going to be a little bit more
39 flexibility, in terms of how the analytical team consults with
40 the experts that are involved in the process, and so there may
41 be some ad hoc webinars or conference calls that you are
42 requested to participate in.

43
44 Ultimately, decisions will be made in some sort of publicly-
45 noticed setting, but there will be a lot more opportunity for
46 just being able to reach out to someone and ask a question, more
47 so than we've had in the past, and kind of like the IPT setup
48 that the council uses for amendment development.

1
2 Ultimately, the decisions on what to do in the amendment are
3 made by the council in a public setting, but the nuances of
4 drafting the language and all that sort of stuff and doing the
5 analyses is all done by the IPT and then presented to the
6 council, and so this is going to be similar to that, but with
7 respect to the content of the assessment.

8
9 **MR. GILL:** Thank you, Ryan. How large is the ADT? How big of a
10 body is that?

11
12 **MR. RINDONE:** This is going to be a joint research track with
13 the South Atlantic Council, because we've never done scamp
14 before, and the initial part of it is going to be a stock ID
15 workshop to determine where the boundary should be, if there
16 should be a boundary, and, because SEDAR has not yet found that
17 money tree, and we're trying to split resources between the two
18 councils, it will be three people for each council that will be
19 on the ADT, and so we would like volunteers from you guys and
20 then also volunteers for the data workshop, which will be
21 sometime in March of 2020, and so we haven't nailed a date down
22 for that yet, since it's a year away, but it does give you some
23 idea of the developmental time for the research track
24 assessment.

25
26 **CHAIRMAN POWERS:** It is the first research track one, and so it
27 gives you the opportunity to formulate how they operate.

28
29 **DR. CASS-CALAY:** This one will be a heavier lift than we think
30 subsequent ones will be, because it is the first research track
31 assessment and the first assessment of scamp, and so we imagine
32 that future research track assessments could be considerably
33 shorter, but this one will be time consuming, is our guess.

34
35 **MS. NEER:** That is an excellent point that Joe made, that this
36 is the first time we're doing it, and so, if you're interested
37 in sort of crafting how we might move these in the future, if
38 you have the time to do the ADT this time around, we're
39 certainly going to be looking to them for feedback on how the
40 process worked, absolutely, as we -- Because the next research
41 track, FYI, for you guys is supposed to be red snapper.
42 Actually, that's true for both the Gulf and the South Atlantic.

43
44 **DR. CASS-CALAY:** I would estimate that it will be similar to the
45 amount of time that you put into a benchmark assessment, but it
46 will take place over a longer period of time, and so the effort
47 might be similar, but it will take place over several webinars
48 over a long period of time and a workshop.

1
2 **MS. NEER:** Yes, and it will be similar if you had decided to
3 participate in both data and assessment.
4
5 **MR. RINDONE:** Please, not everybody all at once.
6
7 **MS. NEER:** This is your opportunity to address some of those
8 issues that you guys have often brought up with changes between
9 data and assessment and assessment and review and people not
10 knowing what's going on and how come recommendations don't
11 follow through, and so we're attempting to address those
12 concerns by this ADT group, but it is going to be a time
13 commitment, but it's a time commitment spread out over a good
14 period of time, and it's not like we're expecting you to do
15 nothing for four weeks at a time.
16
17 **DR. CHAGARIS:** I will volunteer to be on the ADT.
18
19 **MR. RINDONE:** Three suckers. All these hands. Man, everyone is
20 all excited now.
21
22 **CHAIRMAN POWERS:** Not a volunteer yet, but I have myself down as
23 being on the stock ID workshop, and is that still the case?
24
25 **MR. RINDONE:** Yes.
26
27 **CHAIRMAN POWERS:** All right. I just wanted to make sure.
28
29 **MR. RINDONE:** Yes, you are still so conscripted.
30
31 **MS. NEER:** Stock ID, and that's one good point, actually. The
32 ADT is not required to participate in the stock ID portion of
33 the assessment, though they are certainly welcome to if they
34 wish, and that is starting this June.
35
36 **MR. RINDONE:** I had Dave Chagaris, Will Patterson, and, Sean,
37 did you volunteer as well? Sean Powers.
38
39 **CHAIRMAN POWERS:** I would reiterate that this really is an
40 opportunity to kind of focus how these things ought to operate,
41 and so you do have some influence, and I would suggest that you
42 use that influence.
43
44 **MR. RINDONE:** All right. Then, to follow up with that, we'll
45 have the data workshop, which will be held in March of 2020, and
46 exact dates and whatnot have yet to be nailed down, because it's
47 a year out, and so we have a little time. If there are any
48 wonderful participants to be involved in that, that would also

1 be appreciated. Robert Leaf. Jud. I think I saw Ken Roberts
2 raise his hand.
3
4 **DR. ROBERTS:** I was swatting a fly.
5
6 **MR. RINDONE:** Anyone else for the data workshop? John Mareska.
7
8 **MS. NEER:** Jim Tolan, don't you want to come and talk about
9 Texas?
10
11 **MR. RINDONE:** All right. That's three. All right. Thank you
12 very much, folks. I guess, while we're on the topic of SEDAR, I
13 would just go through the other stuff.
14
15 Again, with the government shutdown, we had some schedule
16 shuffling going on, and so this is largely informative for you
17 guys. For red grouper, for those of you that are on the data
18 and assessment group for red grouper, some of the webinars have
19 been pushed back, and there's been some rescheduling, and so
20 just keep an eye out for when those are going to come up. I
21 think -- Julie, when is the next red grouper webinar?
22
23 **MS. NEER:** March 26. I am sending out a doodle poll for the
24 April one as soon as I get off this webinar, because it won't
25 let me schedule a different one while I'm on this one.
26
27 **MR. RINDONE:** Okay, and so, red grouper people, keep that in
28 mind. What's the next one? Gray triggerfish. The data and
29 assessment workshop for gray triggerfish has moved to May 20th to
30 the 22nd, and, just to remind everybody who the participants are
31 for that, and so I have Bob Gill, Kai Lorenzen, Will Patterson,
32 and Jim Tolan, and so just to verify with you guys that you can
33 do May 20th to the 22nd in Miami. We will assume Kai can. When
34 you're not here, you can be spoken for. I learned my lesson on
35 that the hard way.
36
37 Then SEDAR 64 is yellowtail snapper, and let me pull up the
38 participants for that, and so that's Jim Tolan and Jim Nance and
39 Steven Scyphers, and the schedule for that one has also had its
40 workshops pushed back, and so the data workshop is going to be
41 June 25 to 27, and so are you guys all still good for that?
42 Perfect.
43
44 Then the assessment webinars will follow that, and they will be
45 in the late summer and fall and early winter of 2019, and the
46 review workshop will be February 25th to the 27th of 2020, and
47 that's Kai and Joe.
48

1 **CHAIRMAN POWERS:** If I'm here, I will be there.

2
3 **MR. RINDONE:** Terrific. All right. Then the last one was the -
4 - I think that's it, because the last one was the scamp one, and
5 we already kind of went over that, and so that takes care of the
6 SEDAR issues.

7
8 **UPDATE ON NOAA RESTORE ACTIVITIES (CONTINUED)**

9
10 **CHAIRMAN POWERS:** All right. Thank you. The only thing left on
11 the agenda was we had the discussion with Dave about the
12 presentation on the RESTORE stuff. By the way, as we're doing
13 that, I promise that we're not going to vote on anything at this
14 point, and so, if you have to leave, leave. This is purely a
15 discussion and information sort of process.

16
17 **MS. SCHIAFFO:** What slide do you want to start on?

18
19 **SSC MEMBER:** The lionfish and cardinalfish one might be a good
20 one. I saw a study area map to the left, and I assume that that
21 was the basis for the sampling that the assessment was based on.
22 I was just looking at the graph of the lionfish and the
23 Deepwater Horizon impacts, and I saw the northern Gulf of
24 Mexico, the study area map, and that's the basis of the data
25 that are included in the projections, and is that your northern
26 Gulf of Mexico delineated area? I am curious about your eastern
27 Gulf versus the northern Gulf and what the difference is between
28 those geographic regions in your assessment.

29
30 **DR. CHAGARIS:** The West Florida Shelf model is more of an
31 eastern Gulf model, and it basically extends from the
32 Florida/Alabama border down to, but excluding, the Florida Keys
33 and out to 250 meters, to the shelf break.

34
35 **SSC MEMBER:** So it's Florida and the Panhandle, the west and
36 south.

37
38 **DR. CHAGARIS:** Correct. Now, what this model here was developed
39 was specifically around this study site that Will Patterson has
40 been running his ROV and trophic surveys over the last almost
41 ten years now, and so this model was specifically to integrate
42 his datasets into a framework where we could explore this
43 specific question.

44
45 **SSC MEMBER:** Okay, and do you -- Is there any particular
46 significance for the eastern Gulf being considered from the
47 Florida Panhandle further east and south? If you were dividing
48 the Gulf of Mexico into two parts, or three parts, if you want

1 to be -- Would you have a northeastern and an eastern and a
2 western, or how would you divide the Gulf, based on your
3 ecosystem approaches to looking at the system?
4

5 **DR. CHAGARIS:** I think I would say probably the region that
6 we're missing is the western Gulf. We don't have an explicit
7 western Gulf model. We have a Gulf-wide model, and we have a
8 couple of northern Gulf models, and we have the West Florida
9 Shelf model, and the advantages of having these regional models
10 -- You see this done in other areas, where they have regional
11 models, is that we can have like maybe more detail in the
12 western Gulf for grouper questions.
13

14 **SSC MEMBER:** What would you define as the western Gulf?
15

16 **DR. CHAGARIS:** Typically, I guess we define it as around the
17 mouth of the Mississippi River.
18

19 **SSC MEMBER:** And west, and it wouldn't include this area?
20

21 **DR. CHAGARIS:** No, this would not be included in the western
22 Gulf. In fact, this area is a sub-area of the West Florida
23 Shelf model, essentially. This is Mobile Bay over to Eastpoint,
24 Florida, and so it's --
25

26 **SSC MEMBER:** Okay. I am thinking about that 30 percent of the
27 Mississippi River discharge, or it used to be 30 percent, and I
28 don't know what it is today, but it has an influence on eastern
29 Louisiana and Mississippi over to about Mobile Bay, and it seems
30 like, to me, if you look at all the shrimp distribution maps, it
31 seems like that area of eastern Louisiana and Mississippi over
32 to Mobile Bay seems more akin, to me, ecologically as the
33 western Gulf, as opposed to the Florida Shelf, or any other
34 designation, and I'm just wondering if you are --
35

36 **DR. CHAGARIS:** Yes, I would agree. Kim de Mutsert's model
37 focuses more explicitly on that region. It may not go quite as
38 far east as what you described, but it is linked to these
39 hydrodynamic models for the Mississippi River, and she has some
40 finer models for some Louisiana marsh areas as well, and, of
41 course, the Gulf-wide model captures all of that too, and so we
42 have a suite of models.
43

44 The West Florida Shelf model does not explicitly include the
45 Mississippi River dynamics, but we do actually use flow inputs
46 to drive nutrients in the Mississippi River, even though it's
47 not on the West Florida Shelf, but it really dominates the
48 dynamics in the Gulf, and so I would say Kim's model and the

1 Gulf-wide model that Skyler is working on can be used to look at
2 some of that.

3
4 **CHAIRMAN POWERS:** Will, did you want to get into this
5 discussion?
6

7 **DR. PATTERSON:** I was just going to say that it depends on the
8 taxa, and it's not really just an abrupt -- I mean, if you're
9 talking about freshwater input, then clearly the Mississippi
10 River has a big influence, but, if you look at the sediments,
11 there's a transition from the Chandeleur Islands all the way
12 over to San Blas, from high organic muds to sand, silica quartz
13 to finally hard bottom, and so it's really a transition across
14 that area, but a lot of the reef fishes -- For example, I mean,
15 their tagging data shows movement from Alabama and Mississippi
16 eastward, but not west, and exchange hasn't been documented
17 across the mouth of the river.

18
19 I mean, if you look at browns and whites, then sure, but then
20 you have pinks all the way over to the east, and so it's a clear
21 delineator, but I just think that this idea of biogeography and
22 this is the mark, or is it here, or is it thirty miles to the
23 west, it really depends on the taxa that you're looking at.

24
25 **SSC MEMBER:** I was just hoping you might have greater resolution
26 as to assemblage structures that might better delineate habitats
27 that might be shared by suites of species.

28
29 **DR. CHAGARIS:** That's something we could look into, and we
30 haven't done that yet, because we would need to basically have
31 the Gulf-wide model into the Ecospace component, but what
32 happens is you define your habitat preferences, and then the
33 species distributions basically emerge out of the model, and
34 past applications have shown that you can get pretty reasonable
35 spatial distributions.

36
37 Now, currently, the model isn't set up to do any spatial
38 validation, and so that's something we're working on, not just
39 with our project, but the Ecopath Modeling Consortium is working
40 on some spatial validation techniques, and there's a workshop
41 this summer in Barcelona where they're going to bring together
42 some modeling expertise to try to make that efficient.

43
44 Then the other issue is these spatial predictions are only as
45 good as our habitat maps, and so I think that we can do pretty
46 good at broad-scale spatial distribution, especially what Will
47 is talking about with the sediments, and there is definitely a
48 strong gradient in sediments going west to east, and we have

1 that, but, if you're looking at kind of fine-scale -- We still
2 don't have all the hardbottom mapped in the Gulf of Mexico. We
3 definitely have a lot of mapping efforts going on.

4
5 The bottom line is our spatial predictions are only going to be
6 as good as our maps, but, yes, eventually, when we get to that
7 spatial component, these biographic kind of regions should
8 emerge, given that we have provided the right habitat
9 preferences.

10
11 **SSC MEMBER:** Then other -- You have the lionfish and
12 cardinalfish projections, and that's Will's trophic studies were
13 inputs to that?

14
15 **DR. CHAGARIS:** Yes, sir.

16
17 **SSC MEMBER:** That was for this area or for -- What area was that
18 specific for?

19
20 **DR. CHAGARIS:** That was for this area, these northern Gulf reef
21 sites.

22
23 **SSC MEMBER:** Okay.

24
25 **DR. CHAGARIS:** Just a comment on that. Working with Will on
26 this project has been really informative, and, because what he's
27 done is gone out -- He hasn't just gone and counted fish with
28 his ROVs, and he's also done the habitat associations and the
29 trophic studies, and that particular model actually fit better
30 than any other model that I've ever run, and I think it's
31 because we've got all these site-specific data, and so it really
32 shows how this integrated monitoring can be -- The comprehensive
33 monitoring can be integrated into a modeling framework that will
34 allow you to get more out of the datasets, and I think that kind
35 of highlights the advantage of integrating the monitoring with
36 the modeling.

37
38 **SSC MEMBER:** So, lionfish, I heard 2010, and is that when they
39 reached a threshold of abundance where they were commonly
40 encountered, or did I mistake the 2010?

41
42 **DR. CHAGARIS:** 2010 was actually the first detection, and I
43 believe they started growing exponentially around 2012, is when
44 they really started shooting up, and Will can comment on this,
45 but I believe, in the last year or two, we've started to see
46 some declines. They are reaching their really strong density
47 dependence and experiencing things like cannibalism and disease,
48 and so now you're kind of in this -- Lionfish are in this phase

1 where they have invaded, and now they are fluctuating around
2 this carrying capacity area, and so Will has got students in the
3 water right now studying this.

4
5 **SSC MEMBER:** Tell them to be careful. In the western Gulf, I
6 think in the Flower Gardens, were they at about the same time?

7
8 **DR. CHAGARIS:** A little bit later, but the densities haven't
9 been as high in the Flower Gardens.

10
11 **DR. PATTERSON:** I think the densities in the Flower Gardens are
12 similar to what we see on natural bottom, and so, both natural
13 and artificial, the densities peaked around 2015 or 2016, and
14 they have dropped quite a bit, for various reasons, in the last
15 year or so. Back-calculated otolith birth dates in the eastern
16 Gulf, our earliest animal is 2008, and we have quite a few that
17 have 2009 birth dates, and this is 4,000 otolith samples, and so
18 probably they were here for a little while and just cryptic and
19 not observed.

20
21 In the western Gulf, I think especially the Flower Gardens,
22 because the invasion had occurred earlier in the eastern Gulf,
23 and the southern Gulf too, they were monitoring very closely and
24 trying to figure out when they actually showed up, but it was
25 about a year or two later that they really started becoming more
26 prevalent there.

27
28 **SSC MEMBER:** So they have increased in abundance to the extent
29 that they are experiencing density impacts on the population
30 now?

31
32 **DR. PATTERSON:** We have a couple of different sources of
33 information there, where, with density-dependent growth, we can
34 look at growth over time and density, and growth rates
35 decreasing and condition decreasing and incidence of
36 cannibalism, verified by molecular genotyping, has increased
37 over time, and then you also have, more recently, disease issues
38 that have shown up for the first time.

39
40 **SSC MEMBER:** I will quit.

41
42 **CHAIRMAN POWERS:** All right. My final comment is, in the case
43 of lionfish, is, where I live, you do the sampling in the
44 grocery store, and so, with that, can I entertain a motion to
45 adjourn?

46
47 **MR. GILL:** So moved.

1 **CHAIRMAN POWERS:** So moved, and do we have a second? We're
2 adjourned. Thank you very much.

3

4 (Whereupon, the meeting adjourned on March 14, 2019.)

5

6

- - -

7